

THE AMERICAN JOURNAL OF PHARMACY.

OCTOBER, 1876.

THE TWENTY-FOURTH ANNUAL MEETING OF THE AMERICAN PHARMACEUTICAL ASSOCIATION.

The Committee of Arrangements appointed by the Association in 1875, and the Local Committee of Pharmacists and Druggists had accepted the offer of the Philadelphia College of Pharmacy, the Trustees of which institution had placed the College building at the service of the Association. It having been found impossible to secure good accommodations for all the expected members at any one or two contiguous hotels, owing to the throng of visitors to the International Exposition, the College building was selected as the general headquarters and place for holding the meeting. The main hall was tastefully decorated with exotic plants, most of them yielding medicinal products, loaned for the occasion from the conservatory of Prof. G. W. Wood, and served as a general reception and reading-room; the adjoining library was arranged as the office of the Actuary and of the Local Reception Committee, and provided with facilities for writing letters. The sessions were held in the lower lecture room, which was decorated with the coats-of-arms of the United States, the State of Pennsylvania and city of Philadelphia, and portraits of some of the deceased members of the Association adorned the walls. The upper lecture-room and the laboratory were thrown open to afford the visitors ample opportunity to inspect at their leisure the entire building of the College.

First Session—Tuesday afternoon, September 12.

President Markoe called the meeting to order at 3½ o'clock P. M., about 300 members being present at the time. J. M. Maisch acted as Secretary. The chair appointed a Committee on Credentials, consisting of Messrs. Wm. Neergaard, New York; W. J. M. Gordon, Cincinnati, and Joseph P. Remington, Philadelphia. While the com-

mittee was engaged in examining the credentials of delegates, the President read his annual address, in which he reviewed the labors of the Association accomplished since the time of its organization in 1852; the present meeting is the twenty-fourth since the organization of the Association, but the twenty-fifth since the initiatory meeting of the Colleges of Pharmacy of Massachusetts, New York and Philadelphia took place in the city of New York, October 15th and 16th, 1851.

The following invitations were laid before the Association: From the Academy of Natural Sciences to visit their extensive museum; from the Union League to visit their hall on Broad street, the badge of the Association being in both cases sufficient in lieu of regular admission tickets; also, from Mr. James W. Tufts, inviting the members to make use, at their pleasure and convenience, of his pavilion erected near the Globe Hotel, and in the vicinity of one of the principal entrances to the Exposition; also, through Mr. Delacour, an invitation to visit the Masonic Temple on Friday forenoon at 10 o'clock. The invitations were accepted with the thanks of the Association.

Mr. Bullock moved that a committee be appointed, to report at the next meeting, on the articles of pharmaceutical interest contained in the International Exposition. Mr. Menninger amended that the committee report to the Executive Committee, and that the report be published in the next volume of Proceedings, but that the publication of the latter should not be delayed in case the committee should be unable to complete their labors in time. The motion as amended was carried, and the number of members to serve on this committee fixed at nine. The following were appointed at a subsequent session: Prof. Joseph P. Remington, James T. Shinn and A. W. Miller, of Philadelphia; Prof. J. F. Judge, Cincinnati; Wm. Saunders, London, Ont.; Prof. S. P. Sharples, Boston; A. P. Sharp and John F. Hancock, Baltimore, and Prof. Emlen Painter, San Francisco.

The Committee on Arrangements being called upon, Dr. A. W. Miller read the report, containing, among others, the suggestion that the Association meet on alternate days, and devote the intervening days to visiting the International Exposition under the guidance of some of the local members. This proposition created some discussion, but was finally adopted with the understanding that the Association could finish its labors during the same week, and with this object in

view, a motion by Prof. Judge, that evening sessions be held on the days when the Association met for business, was carried by 89 affirmative against 57 negative votes. The suggestion of the Committee on Arrangements to invite to seats on the platform the two surviving original members of the Philadelphia College of Pharmacy was unanimously carried; the gentlemen are Daniel B. Smith, the first President of the American Pharmaceutical Association, in 1852, and Peter Williamson, the Acting Secretary at the organization of the College named, in 1821.

The report of the Committee on Credentials was now read. Delegates were accredited from twelve colleges of pharmacy (Philadelphia, New York, Cincinnati, Massachusetts, Maryland, Chicago, Louisville, St. Louis, National, Tennessee, California and Ontario), nine State pharmaceutical associations (New Jersey, Rhode Island, Maine, South Carolina, Georgia, Connecticut, Vermont, Michigan and New Hampshire), six local associations (Newark, Camden, Washington, Richmond, Chicago Drug Clerks', and German Apothecaries', of New York) and nine alumni associations (Philadelphia, New York, New York Alumni Association of Philadelphia College, Maryland, Massachusetts, Chicago, Louisville, St. Louis and Cincinnati).

Seventy-six candidates for membership were reported by the Executive Committee, and unanimously elected; Messrs. E. T. Dobbins and Wm. Saunders acting as tellers.

The reports of the standing and special committees were called in and laid upon the table for future consideration. The report of the Executive Committee being called up, was read by the chairman, Geo. W. Kennedy. Amongst the work performed by this committee during the year was the carrying out of the instruction received at the previous meeting—to design and get up a badge for the members of the association; it consists of a trilobed leaf, upon which is impressed a mortar and a Liebig's condenser, the latter bearing upon the cooler the inscription, "Am. Phar. Ass'n;" finished in nickel-plated metal it may be obtained from the Secretary, at 50 cents each. The officers and the committees actively at work during the meeting were likewise provided with badges.

The Permanent Secretary gave an account of the work connected with his office, and suggested that several special committees be made standing committees.

The two last mentioned reports were accepted, and on motion, referred to a special committee to consider the suggestions contained therein, and report at a future meeting. The chair appointed, at a subsequent session, Messrs. Paul Balluff, New York; Jno. C. Wharton, Nashville, and E. H. Sargent, Chicago, on this committee.

After the appointment of the Nominating Committee, the Association adjourned until Thursday morning, at 9 o'clock.

Second Session—Thursday morning, September 14th.

In the absence of the President, Vice President Fred. Hoffmann, called the meeting to order. After the approval of the minutes of the first session, letters were read from "Danmarks Apotheker Forening," "Schweizerische Apotheker Verein" and "Deutsche Apotheker Verein," acknowledging the receipt of invitations to be present at this meeting. The letters were ordered to be filed and spread on the minutes.

Prof. Remington introduced the following gentlemen from Japan: Messrs. S. Nagayo, Chief of the Imperial Board of Health and Director of the Medical College at Tokio; H. Miyaka, Professor at the Medical College of Tokio and Commissioner of the Imperial Board of Health, and S. Iwanaga, of the Imperial Commission of the Board of Health. Prof. Th. G. Wormley, of Columbus, Ohio, and Wm. H. T. Kiersted, President of the Association in 1860-62, were introduced by Dr. Squibb. All these gentlemen were warmly welcomed, and conducted to seats upon the platform.

The Nominating Committee recommended the election of the following officers and standing committees: Charles Bullock, Philadelphia, President; Samuel A. D. Sheppard, Boston; Gust. J. Luhn, Charleston, and Jac. D. Wells, Cincinnati, Vice Presidents; Chas. A. Tufts, Dover, N. H., Treasurer; John M. Maisch, Permanent Secretary; C. L. Diehl, Reporter on the Progress of Pharmacy.

Executive Committee—George W. Kennedy, Pottsville, Pa.; Chas. H. Dalrymple, Morristown, N. J.; Wm. H. Crawford, St. Louis; John Ingalls, Macon, Ga., and the Permanent Secretary *ex-officio*.

Committee on the Drug Market—Wm. Saunders, London, Ont.; Wm. H. Wickham, N. Y.; John F. Judge, Cincinnati; N. Gray Bartlett, Chicago, and C. F. G. Meyer, St. Louis.

Committee on Papers and Queries—Wm. McIntyre, Philadelphia; Louis Dohme, Baltimore, and Jos. L. Lemberger, Lebanon, Pa.

Business Committee—Joseph Roberts, Baltimore ; Henry S. Wellcome and Chas. Rice, New York.

The nominees were severally elected, and Messrs. E. R. Squibb and Fr. Hoffmann appointed a committee to conduct the President elect to the chair. Mr. Chas. Bullock assumed the presidency with a few remarks suitable to the occasion.

The Treasurer read his annual report of receipts and disbursements during the past year. It was suggested that the balance on hand be deposited, and an Auditing Committee was directed to be appointed, for which duty the chair selected Messrs. Shinn, of Pennsylvania ; Leis, of Kansas, and Ingalls, of Georgia. It was likewise ordered that members dropped for being in arrears, be requested to return their certificates of membership.

The Committee on the Revision of the By-laws, in compliance with the directions of the meeting of 1875, presented a printed report, which was distributed among the members, the consideration being deferred to a subsequent session.

The Committee on the Ebert Prize read their report (see "*Amer. Jour. Phar.*," 1876, p. 227), which was accepted and adopted.

The Committee on Maximum Doses made a report, showing that they had conferred with the American Medical Association, by which body a committee had been appointed to act in conjunction with the committee appointed by this Association. The report was, on motion, accepted, and the committee continued.

The report of the Committee on Legislation was read by J. M. Maisch. It was, on motion, accepted and the Secretary instructed to incorporate all other modifications of pharmacy laws, passed during the past year, which may come to his notice.

A report was read by the Committee on the Liebig Memorial and, since the object has already been accomplished, it was, on motion of Dr. Menninger, resolved that the funds collected by the committee be returned to the donors, and that the committee be discharged.

Dr. Hoffman read the report of the Committee on Metrical Weights and Measures, advocating the adoption of this system. Mr. Wiegand presented a memorial arguing against the immediate introduction of the metric system. The two papers were accepted and referred to a committee of three, to report at a future meeting. Messrs. E. S. Wayne

of Cincinnati, J. F. Moore of Baltimore and Israel J. Grahame, of Philadelphia, were subsequently appointed to this duty.

The Committee on the Photographic Album presented a report, which was accepted and referred. On motion of Dr. Menninger, the committee was discharged and the albums placed in charge of the Permanent Secretary.

Mr. A. L. Calder, Chairman, read the report of the committee to whom had been referred the letter of Mr. B. Lillard, then Treasurer and acting Secretary of the Tennessee College of Pharmacy. The report was accompanied by two letters from the Registrar of that College, and concluded by stating that the "committee, accepting the written statements of the Tennessee College of Pharmacy as facts, are of opinion that that College has not departed from an honorable course in tendering or conferring its degrees." After some personal explanations by Mr. Lillard, the report was adopted.

Mr. Eberle read the report of the Committee on Julius Fehr's Complaints, finding "that neither of the Committees (on Specimens and on Papers and Queries) are in fault, and that the omission from the printed minutes, of the remarks which Mr. Fehr did make are no fault either of the Secretary nor of the stenographer"; and offering the following resolutions:

1. That the complaints of Julius Fehr against the Association be dismissed.
2. That no patented or proprietary article, or one the composition of which is held in the least degree in reserve, shall receive official notice at the hands of the various committees of this Association, without further action on its part.

The report was accepted and adopted, after which, on motion of Prof. Babcock, Mr. Fehr was allowed five minutes to make some explanation. These remarks were of such a nature that Dr. E. R. Squibb moved that Mr. Fehr be expelled from the Association for using indecorous language to its members, committees and officers. Amendments to this motion, to indefinitely postpone, to permit Mr. Fehr to apologize, and to lay upon the table, were voted down, and the original motion was then carried by a vote of 106 in the affirmative against 19 in the negative.

Invitations were received from Messrs. H. C. Fox Sons & Co., to visit their glass works, and from the Zoological Society, of Philadelphia, to visit the Zoological Garden, located in Fairmount Park, the

badge of the Association admitting to the grounds free of charge. The invitations were accepted, with thanks.

Dr. Squibb read a paper "On the administration of phosphorus," recommending a solution in cod-liver oil, containing one per cent. of phosphorus; the solution should be carefully made and the air entirely excluded. This may be effected by displacing the air from the bottle containing the oil, by carbonic acid gas, and then rapidly dropping into it the phosphorus, which had been previously cut into small pieces, chilled by placing it in ice water, and afterwards quickly dried and weighed. The bottle is at once corked, placed in tepid water, and agitated until the netted phosphorus is dissolved, when the solution, under a pressure of carbonic acid gas, is syphoned into one-ounce well-stoppered vials, taking care to leave the least practicable room for air. Properly prepared, the oil remains limpid and bland; exposed to the air, it becomes covered with a dark-brown pellicle, which protects the oil beneath from rapid change. It is administered by diluting the solution with more cod-liver oil, or by emulsionizing the thus diluted solution with glycerin. A pill may be prepared by mixing in a mortar one part each of magnesia and powdered soap with two parts of stronger ether, and when thoroughly wetted adding one part of the phosphorus solution, the mass to be divided into the required number of pills, and these dispensed in a vial containing some magnesia and a drop of ether. The solution may also be dispensed in the form of a damp powder, by shaking together in a wide-mouth vial 140 grains each of stronger ether and calcium carbonate, then adding 50 grains of the solution, and after agitation triturating in a mortar; before the ether has completely evaporated the powder is transferred back into the vial and should now weigh 200 grains, containing half a grain of phosphorus, and may be dispensed in gelatin or wafer capsules.

The author exhibited the various preparations mentioned in the paper, and a discussion took place on the use of different oils for dissolving phosphorus, some members having attained better results with almond than with cod-liver oil.

Dr. Squibb presented the following resolution, which was laid over to be taken up for discussion at the third session:

Resolved, That the American Pharmaceutical Association devote an hour of its third session to a discussion of its interests in the United States "Pharmacopœia," with a view to the adoption or rejection of the following resolution:

"WHEREAS, By action of the American Medical Association, at its recent meeting in this city, it is proposed to discuss at its next meeting, in Detroit, in June, 1877, a proposition for that association to assume the control of the National 'Pharmacopœia'; therefore

"Resolved, That this Association offers to the American Medical Association its hearty co-operation in the work, in any way that the American Medical Association may find the services of this Association most useful.

"Resolved, That a copy of this preamble and resolution, with the discussion had thereupon, be forwarded by the President of this Association to the President of the American Medical Association."

Third Session—Thursday afternoon, September 14th.

The Association assembled again at 3½ o'clock, Messrs. Daniel B. Smith and Peter Williamson occupying seats upon the platform. A vote of thanks was tendered to the retiring officers.

Dr. Squibb's resolution offered at the second session was now taken up, the mover presenting his arguments in favor of the resolution.

Prof. Judge, on behalf of the "Pharmacopœia" Committee of the Association, brought in a substitute for the former resolution, as follows:

WHEREAS, While at the time of the formation of the U. S. "Pharmacopœia," the method adopted for that purpose and subsequently continued for the revisions of the same, was adapted to the then existing conditions of the medical profession and apothecaries of the United States, the time has arrived for the use of better and more perfect means for accomplishing the revision of this important work, and

WHEREAS, The Pharmaceutical profession has advanced to a position, and by its great interest in the "Pharmacopœia," is entitled to take a prominent part in the revision of the same; therefore

Resolved, That this Association invite the American Medical Association to co-operate with us in said revision, and that they appoint a committee to act with our committee in conducting the said revision.

Prof. Bedford moved to amend the resolution, and the amendment was accepted by Prof. Judge, as follows:

Resolved, That this Association will willingly co-operate with the American Medical Association in the work of revising the U. S. "Pharmacopœia."

A lengthy discussion ensued, during which the necessity for a change in the manner of revising the "Pharmacopœia" was generally admitted; but little unanimity seemed to prevail in regard to the plan to be adopted, some speakers favoring the creation of a council, under whose supervision the revision should be accomplished; others appeared to regard the plan followed until now as merely requiring some

modifications, while others desired the medical profession to take charge of the materia medica part, and to designate the pharmaceutical and chemical preparations which should be admitted, leaving to the pharmaceutical profession the entire control of devising the formulas and processes. Interesting as the discussions were, the Association was evidently not prepared for a final vote, and Mr. Sargent's motion therefore prevailed to lay the subject upon the table until the next annual meeting, so as to afford ample time for consideration.

The interesting report of the Committee on Adulterations and Sophistications was then read by the chairman, O. Eberbach, and referred for publication; and after the appointment of a committee to consider and report upon the place and time for holding the next annual meeting, the Association adjourned until 8½ o'clock the same evening. Messrs. S. M. Colcord, Boston; J. T. Shinn, Philadelphia, and J. F. Hancock, Baltimore, were appointed this committee.

Fourth Session—Thursday evening, September 14th.

After the reading and approval of the minutes, the report of the Committee on Revision of the By-laws was taken up. The committee, evidently opposed to frequent and unnecessary changes, prefer to carry out the spirit of the laws, and merely recommend to change two special committees—those on the Ebert Prize and on Legislation—to standing committees. The requisite change in Chap. VI, Art. I, of the By-laws, was approved by the Association, and the duties of the two committees defined as follows:

Article XI. The Committee on Prize Essays shall, within six months after the annual meeting at which the essays are presented, determine which, if any of them, has met the requirements of the founder of the prize. In all other respects they shall be governed by the stipulations expressed by the donor. The decision of the committee, with such comments upon the successful essay only as they may deem proper, may be published in the journals of pharmacy in advance of the annual meeting of the Association.

Article XII. The Committee on Legislation shall keep a record of, and compile for reference, the enactments of the different States regulating the practice of pharmacy and the sale of medicines. They shall report at each stated meeting of the Association what legislation has occurred during the year.

The Executive Committee presented the names of thirty candidates for membership, who were duly elected, Messrs. A. P. Brown and Wm. McIntyre acting as tellers.

The reading of essays being called for, Mr. J. D. Wells read a paper on "Senega root," in answer to query 1, giving a brief history of its introduction into medicine, and stating that it grows rather sparingly from Canada and along the Western slope of the Alleghenies through the valley of the Ohio river, being more frequent in Southern Indiana, likewise in Iowa and Minnesota, in the Virginias, North Carolina, Kentucky, Tennessee and the Northern parts of Georgia, Alabama and Texas; but it is scarce in Missouri, and has not been found between 32 and 45° N. Lat. and from 97° Long. west to the Pacific coast. No accurate information can be obtained with regard to the amount of senega exported; but a leading drughouse of New York estimates the quantity at rather more than 2,000 pounds annually.

A paper by H. N. Rittenhouse, on "Ammoniacal glycyrrhizin," was read, and a handsome sample of the same, in thin, dark-colored transparent scales, exhibited. The preparation was made by the process of Z. Roussin (*"Amer. Jour. Phar.,"* 1875, p. 405-410), omitting, however, the refining by resolutions in alcohol, and precipitation with ether, which would add materially to the cost. It appears to be well adapted for masking the bitter taste of quinia and other compounds.

In a paper presented in answer to query 9, Mr. G. W. Kennedy proposes a fluid extract of guarana (*Paullinia sorbilis*), which is prepared by displacing the moderately-fine powder with a mixture composed of 8 fluidounces of strong alcohol and 4 each of glycerin and water, and completing the exhaustion with diluted alcohol; the first 12 fluidounces of the percolate is reserved, the remaining portion being evaporated to 4 fluidounces, and mixed with the reserved liquid.

Dr. Pile, in answer to query 8, presented a short paper, in which he stated that he had been unsuccessful in preventing the change of syrup of iodide of iron by the addition of citric acid, unless it was kept in well-filled vials and excluded from contact with the air. Several members claimed to have been quite successful in preserving the pale-green color of the preparation, even in partly-filled bottles, by adding to 20 fluidounces of the fresh-prepared syrup 5 grs. of citric acid. Other members had used it in larger proportion. In the discussion, the change of the color of the syrup from pale-green to colorless, under the influence of the direct sunlight, was likewise alluded to.

The Secretary read a paper by J. U. Lloyd on "Fluid extract of

cotton-root bark," giving an account of many experiments, from which the conclusion is drawn that old cotton-root bark is without value as a medicinal agent, and that the fresh or recently dried bark alone should be used for preparing the fluid extract, which is then often of a brownish color, changing to deep red. In place of the menstruum directed by the "Pharmacopœia," a mixture of ten parts of alcohol and six of glycerin is recommended, to be followed by alcohol. Noticing the gelatinization of some fluid extracts of cotton-root bark, the author attributes this to the presence of water in the preparation, but is not prepared to offer any opinion as to the principle to which the formation of the jelly is due.

An adjournment was then had until Saturday morning at 9 o'clock.

Fifth Session—Saturday morning, September 16.

After the reading and approval of the minutes, the Business Committee offered the following :

Resolved, That the Executive Committee be instructed to carefully revise the Proceedings of this meeting prior to publication, and to expunge therefrom every irrelevant word and every word conveying any personal imputation.

Messrs. Menninger and Sheppard opposed the resolution, while Messrs. Roberts, Saunders, Judge, Colcord and Peixotto argued in favor of its passage. A motion by Mr. J. L. Schofield, to refer it to the Executive Committee without instruction, was negatived by a vote of 40 against 18. Dr. Menninger raised the point of order that the resolution was an amendment to the By laws ; but the chair referring to the closing sentence of Art. IV, Chap. VI, ruled the point not well taken. A vote being had on the motion, 31 members were found to vote in the affirmative and the same number in the negative. A second vote was then ordered, when 51 members voted in the affirmative and 30 in the negative ; so the resolution was declared to be passed.

Mr. C. L. Eberle moved as an amendment to the By-laws to add to Chap. VII, Art. X, the following :

A motion to expel a member of this Association shall be laid over until the session next succeeding that at which such motion is made.

Under the rules this amendment was to lie over until a subsequent session, but not having been called up, it will have to be considered at the next annual meeting.

The committee on the place and time of the next annual meeting reported in favor of Toronto, Ont., and that the meeting be held on the first Tuesday (the fourth day) of September, 1877. The recommendations were adopted, and an invitation was then extended by the delegation from Cincinnati to meet in that city in 1878.

An invitation from the Pennsylvania Salt Manufacturing Company, to visit their works, at Greenwich Point, on Tuesday morning, at 9 o'clock, was accepted, with thanks.

Mr. Richard M. Shoemaker, Chairman of the Committee on the Drug Market, read the report of that committee, giving an account of the condition of the drug market during the past year. It was supplemented by a report from the Pacific Coast, written by Mr. Henry Steele.

Prof. Diehl read the very interesting introduction to the Report on the Progress of Pharmacy, in which a review is given of the most important observations and investigations made during the year. This portion, together with the voluminous report belonging to it, was referred for publication.

Professor E. Scheffer read an instructive paper, in answer to the query, What is lactopeptin? From his numerous experiments, the author concludes "that lactopeptin is an acidulated, saccharated pepsin, contaminated with a number of inert substances, and that in its digestive strength it is inferior to the saccharated pepsins of the market." The elimination of pancreatin and diastase from lactopeptin had been attempted by macerating the latter in water, neutralizing the solution by calcium carbonate, and precipitating by alcohol; the precipitate showed none of the properties of either pancreatin or diastase.

A paper presented by the same author and entitled "Notes on pancreatin, diastase and ptyalin," supplements the preceding; the experiments detailed therein lead to the conclusion upon which all physiological authorities agree, that pepsin acts in like manner upon all albuminoids, and converts them into pepton.

The itching principle of squill (query 18) was the subject of a paper by Mr. E. D. Chipman, who believed with Tilloy in the existence of two active principles in squill, one yellow and bitter and the other a very acrid resinoid, to the latter of which was due the itching and tingling sensation when applied to the skin. It was stated, how-

ever, that Flückiger, in his "Pharmakognosie" (1867, p. 187), and Flückiger and Hanbury, in their "Pharmacographia" (page 629), attribute the irritation produced by squill to the presence of very sharp and brittle crystals of oxalate of calcium.

The Chairman of the Committee on Papers stated that a paper "On the presence of sulphuric in commercial tartaric acid" (query 24) had been mailed but not yet received; it was referred to the Executive Committee.

Mr. Louis Dohme read a paper "On the presence of arsenic in phosphorus" (query 26). It appears that at present only two brands of phosphorus are sold in this market, one made by Gibbs & Deacon, Mount Holly, N. J., the other by Albright & Wilson, Oldbury, England. A sample of the former was found to be free from arsenic; two samples of the latter were found to contain 0.562 and 1.066 per cent. of the metal named. The arsenic was weighed as arseniate of magnesium and ammonium.

The Association adjourned until 2½ o'clock.

Sixth Session—Saturday afternoon, September 16th.

The session was opened, Vice President Sheppard occupying the chair. The appointment of a special committee of three to report on adulterations and sophistications was ordered, and Prof. E. Painter of San Francisco, E. H. Sargent of Chicago and W. H. Pile of Philadelphia appointed.

The report of the committee appointed to consider the suggestions contained in the annual report of the officers, recommended the approval of the action of the Executive Committee in providing badges for the officers and the standing committees on active duty during the meetings of the Association; the report was adopted.

Mr. Henry J. Rose, of Toronto, was nominated and duly elected Local Secretary for the ensuing year.

A paper by Mr. M. S. Bidwell, "On liquor ferri chloridi dilutus" (query 31), was read and referred; it argues in favor of reducing the alcoholic strength of the present tincture of ferric chloride to one-half.

Prof. Sharples read a paper "On the substitution in the 'Pharmacopœia' of parts by weight for absolute quantities" (query 30); the author, by his examination of the subject, had arrived at a conclusion

directly opposite to his opinion before investigating it, and argued in favor of retaining absolute quantities by weight and measure. Several members spoke in opposition to these views, and cited the practice of continental Europe, where preparations are made from formulas directing parts by weight, and where also the prescriptions are written and dispensed by weight only. It was suggested that the question be continued for another year.

The Auditing Committee reported having examined the Treasurer's books and finding them correct, there being a balance in his hands amounting to \$941.33.

Mr. Wellcome's paper "On damiana" (query 35) gave an account of the different herbs that have been used under this name ("Amer. Jour. Phar.," 1875, p. 518; 1876, p. 273).

Dr. Hoffmann exhibited a pharmaceutical microscope made by Edw. Messer, Berlin, Germany, and imported by him at a price of about \$15, gold. Several members discussed the advantages of the use of the microscope by the pharmaceutical student, and the Committee on Queries was requested to prepare a suitable query on this subject for investigation.

Mr. Sharples read a paper "On graduated measures," in which he condemned the conical graduate as an instrument of precision, and recommended the tumbler-shaped graduate for general use; but for accurate work the burette, pipette or flask should be used; also, that each person should at least make a rough test of his measures before using them, and not rely on the name of the maker alone.

Prof. Bedford read a paper by E. Gregory "On emulsions" (query 30). After describing his experiments, the author concludes that three drachms of acacia in fine powder are necessary to emulsify one ounce of any of the volatile oils, and that a little less (about two drachms) will answer for the fixed oils and balsams; that to this quantity of gum four drachms and a half of water must be added (no more and no less), and that either the water or the oil may be added first to the gum; but it is quickest to add the oil first, and well triturate before adding the water. Less gum can be made to yield a good result by a careful operator, but as a general practical working rule it may be said that three drachms are necessary for one ounce of oil.

A paper by Mr. G. A. Zwick, "On medicine wafers" (query 40), was

read, describing a patented process and baking-irons and moulds for producing the wafer discs.

The detection of adulterations in oleum theobromæ (query 44), formed the subject of an essay by Mr. G. Ramsperger, who experimented with cacao butter, made by himself from Caracas cacao, by expression, by ether and by bisulphide of carbon. The three samples varied in their specific gravities (0.850, 0.970 and 0.958) and in the fusing points (31 to 32°, and 33 to 34° C). Though not infallible, ether appears to be the best test to detect adulterations. Dissolved in two parts of ether (spec. grav.?) at 40°C., cacao butter yields a solution remaining clear on cooling, but becoming turbid if adulterated, either at once or after standing, or separating on spontaneous evaporation, little crystals and grains which do not dissolve again in twice their weight of ether. A similar effect upon cacao butter has anilin, and next to ether and anilin, the taste appears to be the best test.

Mr. Wm. Saunders read a paper "On American species of Cantharis and allied Insects" (query 47), illustrating the subject by the exhibition of specimens of the insects, and tendering the use of a lithographic plate prepared at his expense, for the forthcoming Proceedings.

Mr. O. Eberbach exhibited quite a number of samples of santolin crystallized by him from different solvents, also commercial santolin in thick prismatic and in flat crystals. The result of his inquiries into this variation is the conclusion that the form of crystals is due more to the quantities operated on, and to the conditions under which the crystallization takes place, than on the menstruum used as a solvent.

Prof. Sharples read a paper on the Adulteration of Milk, and the method of detecting it by analysis, describing the method used by him and giving the results of numerous assays of pure and adulterated milk.

An adjournment took place until 7 $\frac{3}{4}$ o'clock.

Seventh Session—Saturday evening, September 16th.

The minutes of the previous session having been read and approved, the Nominating Committee presented the following nominations for the newly created standing committees.

For Committee on Prize Essays—Charles Rice, New York; Geo. C. Close, Brooklyn, and Edward P. Nichols, Newark, N. J.

For Committee on Legislation—John M. Maisch, Philadelphia; Sam'l M. Colcord, Boston, and Wm. H. Crawford, St. Louis.

The nominees were duly elected; also eight applicants for membership reported by the Executive Committee, Messrs. Jos. Roberts and J. F. Hancock acting as tellers.

Mr. Hancock read a paper on the arrangement of the dispensing department (query 49), expressing the views that in case of limited assistance it is very convenient to have the prescription department on the front counter; but that it is objectionable to place it in a separate room where the operator is hidden from view and cannot superintend the dispensing counter; he advocates to arrange the prescription department so that the compounder shall be in full view of the front store, and at the same time, sufficiently retired to prevent interruption; a rear counter, or even a separate room, may be arranged to serve this purpose.

A paper by Edward C. Jones, "On cinnamon water" (query 17), states that the cinnamon water of the shops is generally made from the oil of Chinese cinnamon, instead of the oil of Ceylon cinnamon, as detected by the "Pharmacopœia," and that, aside from the different taste, it was of little importance—it being used merely as a vehicle. In the discussion following, the superiority of distilled medicated waters over those made by merely dissolving the oil, was generally acknowledged.

Mr. Charles Mohr, of Mobile, presented a paper "On pycnanthemum linifolium" and its chemical constituents, which he found to be volatile oil, a caoutchouc like resin, chlorophyll, a bitter resin of greenish-yellow color, soluble in 65 per cent. alcohol, and not a glucoside; a granular reddish-brown coloring matter, gum and some sugar, but no organic base. The plant has been used by the negroes in Alabama in all disorders arising from a debilitated state of the digestive organs; it was recommended in 1875 by Dr. E. M. Vasser, of Alabama, and since then has been found by other practitioners to be of value in the treatment of atonic dyspepsia.

Mr. George Leis read a paper on a "Fragrant antiseptic lotion" (query 29), and exhibited several preparations. The discussion following had reference to the disinfecting action of several agents, and to the value of perfumes in the sick chamber. Madame Hutin's Cologne, which is still used in and near New York, was alluded to. Of this preparation Mr. Geo. C. Close says, in a communication to the "Pro-

ceedings of the Alumni Association of the New York College of Pharmacy, 1874:"

Used by Madame Hutin (afterwards Madame Labasse) about 1830. She was a celebrated French dancer on the stage in New York.

Oil of lavender, 3vi ; oil of lemon, 3vi ; oil of rosemary, 3ii ; oil of cinnamon, gtt. xx; alcohol, 6 pints.

This, although very weak, was doubtless refreshing when used, as it probably was, freely to wash with after severe exertion.

A well-informed perfumer says that it would answer the original design of cologne water, viz., as an application for the relief of headache, or for the use of the sick-room, where the ordinary sweet colognes are only deleterious. He says that oils of lavender and rosemary are always refreshing, while the sweet perfumes are often sickening to a weak person.

Mr. W. Saunders read a lengthy paper entitled, "Notes on perfumery," and exhibited a large number of the preparations for which formulas were given. Mr. Vogelbach stated that perfumes were always improved by the addition of as much water as could be taken up by the spirituous liquid without precipitating the flavoring principles.

Dr. A. W. Miller read a paper on the "Manufacture of chemicals in the United States" (query 36). The paper gives an interesting account of some chemical manufacturies; but it is to be regretted that the author's efforts to obtain reliable information from all or the large majority of manufacturers, were unsuccessful.

A paper by Mr. C. A. Heinitsh on "Wine of tar" (query 34) was read. A good preparation, particularly if intended to be prescribed in mixtures, can be made by triturating $1\frac{1}{2}$ ounce of tar with $\frac{1}{2}$ ounce carbonate of magnesium and 1 pint of sherry wine; but, if intended to be used as a substitute for the well-known preparation suggested by Prof. Procter, and made by the fermentation of malt, honey and yeast, and adding the tar, the author proposes to infuse 8 ounces of tar in 3 pints of beer, at a sufficiently warm temperature to keep the tar liquid, and stirring frequently during 24 hours.

The subject of "Factitious Opium" was brought forward in a paper by Prof. Remington, who had received from Kansas a sample of so-called opium, said to have been raised in Michigan. It resembled extract of lettuce, and contained no morphia.

A paper by Charles L. Mitchell, entitled "Ergotin," reviews the various attempts at isolating the active principle of ergot, and gives a formula for what the author designates as *Concentrated extract of ergot*. This is made by moistening 8 troyounces of powdered ergot with a

mixture of 8 fluidounces of water and 2 fluidrachms of acetic acid; after standing twenty-four hours, it is packed tightly in a percolator and exhausted with water; the liquid is evaporated to 4 fluidounces, mixed with the same quantity of alcohol, after several hours filtered and then evaporated to an extract. It has been tried to some extent in the hospital of the University of Pennsylvania, with gratifying success.

A paper "On the condition of pharmacy," by D. Benjamin, and a communication by Chas. Becker, were read; the latter referred to the necessity of a proper apprenticeship, and suggested the appointment of a committee with the view of securing uniformity therein and in the proper tuition and acquirements of apprentices. No action was had on the proposition.

A paper by J. D. O'Donnell, "On deodorized tincture of opium," treats of the exhaustion of the opium by percolation after mixing it with white sand, and the manipulation by which the concentrated aqueous liquid can be conveniently separated from the ether.

A communication by Messrs. J. Dunton & Co. was referred to the Executive Committee, with power to act, and a lengthy paper by Prof. C. G. Wheeler, entitled "Pharmacy in South America," was ordered to be published in the Proceedings.

The Committee on Papers and Queries presented their report, containing the queries which have been accepted for investigation during the ensuing year.

The Business Committee presented the following resolutions, which were severally adopted.

Resolved, That the thanks of the American Pharmaceutical Association are due and are hereby tendered to the papers of Philadelphia for their thorough reports of our proceedings.

Resolved, That this Association thank their presiding officers, their Secretary and their Treasurer for the very able manner in which they have discharged the duties of their several positions.

Resolved, By the visiting members, that we, in behalf of ourselves and of our ladies, do most heartily thank our Philadelphia brethren and their ladies for the very cordial reception they have extended to us, and assure them that we will carry home with us many pleasant recollections of their beautiful city and its kindly inhabitants.

On motion, the Association then adjourned, to meet again at Toronto, Ontario, on the first Tuesday (the 4th day) of September, 1877.

MEGARRHIZA CALIFORNICA—(Torrey).

NAT. ORD. CUCURBITACEÆ.

BY JOHN P. HEANEY, PH.G., SAN FRANCISCO.

(Abstract from an Inaugural Essay presented to the California College of Pharmacy.)

This plant, better known by the synonyms of the "big or giant root" and "manroot," is a herbaceous, climbing and succulent vine, growing abundantly throughout the State. It is closely allied to the echinocystis of the Eastern States, and also to a new genus called "*marah muricatus*," or California balsam apple, which has been described by Dr. Kellogg in the proceedings of the California Academy of Natural Sciences (Vol I). It is found both in dry sandy and rich soil. In the former it grows in bushy tufts about two feet high and four or more wide, being evidently somewhat stunted, but in rich soil, when well shaded, its annual stem climbs thirty to forty feet over trees and acquires its largest growth. It flowers in March and April. The remarkable feature of this plant is its gigantic root, which is perennial, tubero-fusiform, externally of a yellowish-gray color, and rugose; within white, succulent and fleshy, of a nauseous odor, which is lost in a great measure by drying, and of a bitter, acrid and disagreeable taste, which leaves a feeling of acrimony in the fauces. The Indians are said to use this root as a drastic purge in dropsy. It has also been used by domestic practitioners, in the form of decoction, both as a laxative and cathartic with good results. On drying, the root lost from 70 to 75 per cent. in weight. The dried root is externally of a yellowish-brown color and longitudinally wrinkled; internally of a white color, becoming somewhat darker by age, concentrically striated, light, brittle and readily pulverizable, yielding a whitish powder.

A preliminary examination made with the aqueous, alcoholic and etherial extracts of the fresh root led to the following conclusions, namely: That the root contained a bitter principle soluble in water and alcohol, but more readily in the latter; also a resinous, fatty matter and an organic acid, probably of a fatty nature, which was soluble in and extracted both by alcohol and ether. The probable presence of gum and pectin was likewise indicated, as well as the absence of albumen, sugar and volatile oil.

Examination of the Dried Root.—A quantity of the powdered dried root was first treated with ether until thoroughly exhausted by this menstruum, in order to remove the fatty and resinous matter. The

etherial tincture had a lemon-yellow color, and left, on evaporation, a yellowish-brown residue, which possessed the characteristic odor of the root, a slight bitter taste, was brittle and had an acid reaction.

To determine the nature of the free acid, the residue was treated with a weak solution of sodic carbonate and filtered from the insoluble portion. To the filtrate a sufficient quantity of tartaric acid was added, when whitish, oily globules were observed on the surface of the liquid. These had an acid reaction, possessed a disagreeable odor, and gave to paper a stain unaffected by heat; the author names it megarrhizic acid. The portion insoluble in sodic carbonate was treated with a solution of caustic potash in order to effect the saponification of the fatty matter, and the insoluble resinous substance was removed by a filter, washed, dried and reserved to be examined subsequently. To the solution of soap obtained was added a sufficient quantity of tartaric acid to decompose it. Ether was now added, and the mixture agitated. After a few hours the supernatant etherial liquid was removed and allowed to evaporate spontaneously, when it was found to possess properties characteristic of fatty acid bodies. The insoluble resinous substance obtained before was first boiled with water, then thrown on a filter, well washed and dried. It was afterwards dissolved in ether, and the solution decolorized by animal charcoal. The filtrate was evaporated, the residue redissolved in alcohol and then allowed to evaporate spontaneously, left a deposit, exhibiting under the microscope, a rhomboidal crystalline structure; it is evidently a resin. This *megarrhizitin* is soluble in alcohol and ether, and is unaffected by alkalies and solution of cupric sulphate.

The root previously exhausted by ether was next treated with alcohol (sp. grav. 0.835), until deprived of its bitter taste. The tincture was evaporated to a small bulk, then thrown into water to remove traces of fat or resin, and afterwards filtered. The liquid was heated to expel the spirit. To the resulting aqueous fluid was added a concentrated solution of tannic acid. A bulky gelatinous precipitate was obtained. This, being removed by a filter, was well washed and dried. It was now dissolved in alcohol (95 per cent.), the tannin thrown down by plumbic subacetate, the excess of lead removed by H_2S , and the liquid filtered and evaporated. The residue well washed with ether yielded the bitter principle pure. This process was adopted from that of Dr. Waltz, as mentioned in his analysis of colocynth.

To the principle thus obtained, the name of *megarrhizin* is given. It is of a brownish color, somewhat transparent, brittle and friable, yielding a yellowish-brown powder. It is fusible below 100°C ., inflammable, more soluble in alcohol than in water, both solutions being intensely bitter. It is insoluble in ether. The following reactions, with reagents, were obtained: H_2SO_4 , dissolved it slowly with the production of first a bright red and afterwards a brown color; HCl gave a faint violet color; HNO_3 , a yellow, dull color. An aqueous solution of it produced with ferric chloride a deep color, but no precipitate; with plumbic acetate and subacetate, mercuric chloride, solution of iodine, potassa or its carbonate, or argentic nitrate, no change; with tannic acid, a bulky, gelatinous precipitate, and with bromine water, a white, insoluble precipitate. Boiled with baryta water, decomposition ensued; treated with dilute H_2SO_4 or HCl , no change was observed in the cold, but upon boiling, immediately decomposition took place, yielding glucose and an insoluble substance, which may be called *megarrhizoretin*.

This *megarrhizoretin* when washed and dried possesses a dark-brown color, a resinous appearance and is somewhat brittle. Alcohol dissolves it, but ether is only a partial solvent of it, leaving an insoluble portion behind. It is, therefore, a complex body.

The ashes showed, on analysis, the presence of magnesia, lime, iron, potassa, soda, chlorine, sulphuric and phosphoric acids, also a silicious residue.

It will be seen from the foregoing that *megarrhizin* belongs to that class of substances known as glucosides, to which belong also *colocynthin* and *bryonin*, and that it agrees with these two in many of their chemical and physical properties. But *megarrhizin* differs from *colocynthin* in the fact that *colocynthein*, the insoluble resinous substance obtained from the boiling of it with diluted acids, is soluble in ether, while *megarrhizoretin* is but partially soluble in that liquid, thereby agreeing with *bryoretin*. But it differs from *bryonin* principally in the behavior to sulphuric acid, which dissolves *megarrhizin*, yielding a brown color; while *bryonin* produces with it a blue color. Therefore, it was concluded to be a distinct principle.

Physiological Investigation.—A sample of an extract prepared from an alcoholic tincture, and also some of the bitter principle, were sent to a physician in this city to be examined physiologically, and the following note received:

"Your note with samples of the alcoholic extract and bitter principle of *Megarrhiza californica*, for the purpose of ascertaining their physiological action on the animal organism, have been received. I would state that the extract in large doses is a powerful irritant, causing gastro-enteritis and death. It produces griping pains in the stomach, nausea, vomiting and profuse diarrhœa, violent strangury, with other symptoms of renal and vesical irritation. Given in $\frac{1}{4}$ to $\frac{1}{2}$ grain doses, the extract is a drastic hydragogue cathartic, causing nausea, sometimes vomiting, griping pain and copious watery stools. In smaller doses, frequently repeated, it is a diuretic and laxative. Notwithstanding its activity, I should deem it a safe and convenient purgative, and should consider it useful in all cases where it is desirable to produce an energetic influence on the bowels. To obtain large evacuations its hydragogue properties must prove beneficial in dropsies. It also augments the urinary discharges. In intestinal inflammations it should not be used. The above is the result of a series of experiments made upon myself and others. Its toxicological action on a dog was undertaken, but proved a failure in so far as it caused emesis. Five grain doses of the bitter principle were repeated every 15 to 30 minutes, until 30 grains were administered. However, purging and frequent desire to urinate followed, but, otherwise, the animal showed no symptoms of disturbance. The following day, I again administered 5 grains of bitter principle, which was also ejected. Finding that nothing would be retained in the stomach (not even food), the animal was killed for examination, which was conducted immediately after its death. The chief morbid appearance observed was a patch of redness in the mucous membrane of the stomach near its cardiac orifice. The intestines were found to be slightly inflamed, as also the bladder, which was nearly empty. There was also a marked congestion of the kidneys."

THE QUININE-FLOWER.

BY J. DABNEY PALMER, M.D., MONTICELLO, FLA.

The Quinine-flower is an annual from twelve to eighteen inches high, has an erect green stem, linear leaves of about one-half to one inch in length, and small white flowers. The root consists of numerous slender fibres.

It is a native of Florida, and is found most abundantly in flat pine

woods, in a moderately dry soil, making its appearance in March or April, and flowering from July to September. The specimens furnished me were gathered three or four miles south of Monticello, in Jefferson county. In the lower portions of the county it is very abundant, and is successfully employed by those living in its vicinity for the cure of different types of malarious fever, the whole plant being used, either in the form of decoction or extract, and given *ad libitum*, or until the patient feels the effects of quinine in his head. It is a curious fact that persons brought under the influence of this remedy experience similar sensations—such as tension or fullness in the head, ringing in the ears or partial deafness—as when under the influence of Quinia, and hence its name. Its reputation as an anti-periodic was established during the late civil war, when, owing to the scarcity of Quinia, every opportunity was offered for testing the relative value of various substitutes.

The Quinine-flower is intensely and permanently bitter, yielding its properties to water and alcohol. A saturated tincture in doses of one teaspoonful every two hours was found sufficient to break the paroxysm of intermittent fever. Larger quantities, however, may be given in obstinate cases, or in the remittent form of the disease.

REMARKS ON THE QUININE-FLOWER.

BY THE EDITOR.

At our request Dr. Palmer has sent us some of the flowering plants referred to in the preceding paper. The plant was found to belong to the natural order of Gentianaceæ, and to the sub-order Gentianeæ, having the corolla lobes twisted (contorted) in the bud; the distinct style being deciduous, it must be placed into the section to which *Erythræa* and *Sabbatia* belong. Its botanical characters agree with those of the last-named genus, and more particularly with the group which has the white or purplish flowers scattered on alternate peduncles, and the corolla five-parted. On comparing it with the American species in the College herbarium of Dan. B. Smith, it was found to correspond with a specimen of *Sabbatia Elliottii*, Steud., which is marked *ex herbar. Chapmani*. This plant is described in "Chapman's Flora of the Southern United States" as follows:

Stem low, terete, paniculately much branched from near the base, the branches

diffuse; leaves small, sessile, the lowest obovate, the upper linear; lobes of the corolla 3 to 4 times as long as the short filiform calyx-lobes. (*S. paniculata*, Ell.) Open pine barrens, Florida to South Carolina. Aug. and Septb.—Stems $\frac{1}{2}$ to $1\frac{1}{2}$ feet high. Leaves 3 to 6 lines long. Corolla 8 to 10 lines wide.

In both the herbarium specimen and the plants sent by Dr. Palmer, the calyx lobes are more prominent than might be supposed from the description given, but they are evidently described as *short*, in comparison with the much longer calyx lobes of *Sabbatia stellaris*, *gracilis* and allied species, in which they are about equal in length to the corolla, while in the species under consideration they are about one-third the length. The lowest leaves are obovate, those a little higher on the stem oblanceolate, with an acute point, and become rapidly narrowed to a linear shape. The stems of the plants recently received are from 20 to 24 inches high, and consequently rather exceed the height as given by Chapman.

The herb has at first an herbaceous taste which gradually develops into a pure and persistent bitter, free from astringency.

The popular name *quinine flower* appears to be confined to a small locality, probably to only a portion of Florida; at least, I have not been able to find it in any of the floras or popular botanical works of the United States. Porcher's "Resources of the Southern Fields and Forests," p. 556, however, mentions *Gentiana quinqueflora* under the names of *Indian quinine* and *ague weed*—and states that "this and the *G. saponaria* are esteemed fully equal to the imported gentian; in large doses they are said to be laxative; Dr. E. P. Wood, of Wisconsin, has given this plant with success in intermittent fever." He also gives a detailed account of the medicinal properties of *Sabbatia angularis*, the American centaury, and states that *Sab. stellaris* and *Sab. gracilis* possess properties similar to the former.

This genus of North American plants is closely allied to *Erythræa*, of which several species (*E. chilensis*, *centaurium*, *linarifolia*, etc.) are still employed in different countries as tonics, and sometimes as anti-periodics; but we do not remember that effects resembling quininism have been ascribed to any of those plants, such as Dr. Palmer states are experienced from the quinine flower of Florida.

THE USE OF METRICAL WEIGHTS IN PRESCRIPTIONS.

BY PROFESSOR JOHN M. MAISCH,
Of the Philadelphia College of Pharmacy.

The desirability of uniform values of the weights and measures in use among civilized nations, and the admirable simplicity of the French or metrical system, are so apparent that this standard is now not merely legalized, but has been adopted, and is actually used, by a large majority of the nations of Continental Europe. The inconveniences attending such a change are more due to the alteration of values than to the introduction of the system with which, through the Arabic numeration, every one is familiar, and the practical application of which we have in our monetary system. The intimate acquaintance with the latter must doubtless facilitate the comparison of values, the multiples and divisions of which are based upon the same system of decimal numeration. While the general introduction of the metrical system in the United States must be regarded merely as a question of time, it cannot be denied that considerable progress toward this end would have been made, if, in accordance with a resolution passed by the National Convention of 1870, for revising the "Pharmacopœia," the Committee of Revision had "abandoned in the 'Pharmacopœia' measures of capacity, and expressed the quantities in all formulas, both in weights and in parts by weight." Coupled with the direction, "to include some part of the metrical system in the list of officinal weights and measures," the parts by weight could scarcely have been expressed otherwise than upon the basis of the metrical system.

The different value of the *grain*¹ as formerly used occasioned many difficulties in adapting formulas and doses to the weights of other countries; and for similar reasons the use of local values in measures and weights have long since been abandoned in all physical sciences, in favor of the metrical system. Medicine and pharmacy only lagged behind until a few years ago, when it was adopted also in the two branches named by nearly all civilized nations, except those speaking the English tongue, and the labor of translating the values contained in formulas and prescriptions is now almost exclusively confined to the systems of the troy weight, and the English and American apothecaries' measures, as arraigned against the metrical weight.

¹ The variation from our troy grains ranged in different countries between —11 and +46 per cent.

It may be remarked in this place that the "Pharmacopœias" of Continental Europe and the prescriptions of physicians in those countries express all quantities by weight only, whether the material directed be solid or liquid. The greater exactness of gravimetric over volumetric measurement needs scarcely any argument, if the variation in volume under the influence of temperature is considered, and the difficulty of exact measurement in glass vessels of large diameter is taken into account. Moreover, weighing is more convenient, and those who have accustomed themselves to this method will only reluctantly change it for measuring again, if compelled to do so.

From long custom, physicians are apt to over-estimate the difficulties of writing prescriptions for liquid medicines by weights instead of measures. Medicines can be given in absolutely definite doses only, if divided by the apothecary; but their division by him is impracticable in case liquids are employed, and the familiar tea-, dessert- and table-spoons are then resorted to for dividing the medicines at the bedside. How widely these approximate measures differ from each other, and to what extent the difference is increased by the manner of measuring with them, is well known. The apportioning of doses of liquid medicine would, therefore, offer no greater difficulty as long as these convenient and handy, but variable, measures must be employed in the sick-room.

Of the officinal liquid preparations which are prescribed for internal use, the alkaline solutions (of soda, potassa and ammonia), the diluted acids, and the solutions of some salts (ammonium acetate, potassium citrate, etc.), do not differ materially in bulk from an equal weight of distilled water, this difference being less, particularly for the quantities representing their medicinal doses, than the variations of the popular approximate measures by which liquid medicines are taken. Tinctures and fluid extracts vary to a great extent in density, not only from water, but likewise among themselves. The apportioning of their doses by weight, however, would be an easy matter if the resolution of the National Convention above referred to had been carried out; for a given weight of the preparation would then represent a definite weight of the drug, and the proportion of the weight of the drug to that of the preparation would, for tinctures, most likely be 1 : 5 or 1 : 10, the standard generally adopted in Europe. Our present tinctures made with alcohol and diluted alcohol, in the proportion of two

troyounces to the pint, are very nearly of the strength $1 : 6\frac{1}{2}$ and $1 : 7$ respectively; and those containing three troyounces to the pint, $1 : 4\frac{1}{4}$ and $1 : 5$. Tinctura opii is in the proportion of $1 : 11\frac{1}{2}$, and tinctura opii camphorata, $1 : 250$ (for opium). It will be observed that the changes necessary in the officinal formulas to bring them in harmony with the metrical system are by no means as great and revolutionary as is sometimes supposed, particularly if the necessary, or at least desirable, change in the alcoholic strength of the menstruum is taken into consideration.

A uniform standard of strength for fluid extracts would most likely be the proportion of $1 : 2$; or, to give it in the metrical system, $5 : 10$; for the proportion $1 : 1$ is unattainable in all cases where sugar or much glycerin is requisite for preservation; and it appears to be desirable to adhere to an adopted standard, also, for those in the preparation of which alcohol or stronger alcohol is exclusively employed.

Of the remaining liquid medicines, the doses by weight can be as easily acquired as by minims or fluidrachms; but for those who have already become conversant with the measures now in use here, the following observations will offer all requisite facilities for converting them into weights. Ether, having the specific gravity $\cdot 750$, occupies precisely the same volume as $1\frac{1}{3}$ time its weight of water, and the difference in the volume of stronger ether (specific gravity $\cdot 720$) is considerably within the limits of variation of the approximate measures; or, in other words, three parts by weight of ether occupy the same space as four parts by weight of water. The relation of the weight of spiritus ætheris compositus (specific gravity $\cdot 815$) and spiritus ætheris nitrosi (specific gravity $\cdot 837$) to volume is very nearly as $4 : 5$, that is to say, four parts by weight of the preparations named occupy (a little less than) the same space occupied by five parts of water.

Glycerin (specific gravity $1\cdot 25$) has a proportion of weight to volume as $5 : 4$; syrups (specific gravity $1\cdot 317$) nearly as $4 : 3$; chloroform (specific gravity $1\cdot 48$) nearly as $3 : 2$, *i. e.*, $1\frac{1}{2}$ part by weight of glycerin, $1\frac{1}{3}$ part of syrup, and $1\frac{1}{2}$ part of chloroform, occupy, approximately, the same volume as 1 part of water.

If the relative density of the officinal liquids is not lost sight of, it will be seen that there is no great obstacle in the way of prescribing by metrical weights even the preparations of our present "Pharmacopœia," except in the cases of fluid extracts, which vary so consider-

ably that no reliable rule can be given for their relative proportion of weight to volume. But, with this exception, the task is comparatively easy, if it is remembered that for all practical purposes one gram equals 15 grains—that two tablespoonfuls, *i. e.*, 1 fluidounce, of water weigh 455.69 troy grains, or (within less than 8 grains) precisely the same as 30 grams (463 grains). 15 grams of water or its equivalent in bulk of other liquids is, therefore, to be taken as equal to the tablespoonful; 7.5 to 8 grams of water or its equivalent to the dessertspoonful; and 3.7 to 4 grams to the teaspoonful.

Applying these values to the heavier and lighter liquids, it will be seen that—

$15 \times \frac{3}{4} =$	11.25 grams ether,
$15 \times \frac{3}{4} =$	18.75 grams glycerin,
$15 \times \frac{3}{4} =$	22.50 grams chloroform,
$15 \times \frac{3}{4} =$	12 grams spir. æther. comp. (or nitr.),
$15 \times \frac{3}{4} =$	20 grams syrup,

are, in measure, equal to about half a fluidounce, and that the deviation from this measure is in each case considerably less than the difference in the amounts obtained by scant and full measurement with the same tablespoon, or between different patterns of that useful domestic utensil.

The average doses of these liquids, expressed in metrical weights, are, therefore—

Ether	11.25 : 8 = 1.40 grams or $\frac{1}{2}$ teaspoonful.
Spr. æth. comp, and	
Spr. æth. nitr., 12	: 4 = 3.00 “ or 1 “
Chloroform, 22.50	: 8 = 2.80 “ or $\frac{1}{2}$ “
Glycerin, 18.75	: 4 = 4.70 “ or 1 “
Syrups (some), 20	: 4 = 5 “ or 1 “

For the conversion of grain weights of solids into grams, close approximations to the correct weight, within the fraction of $\frac{1}{34}$, are obtained by dividing the number of grains by 15. The error resulting from this rule is best appreciated by comparing the results obtained with the larger weights, thus:

	Correct weight.	Difference.	
		Grams.	Grains.
grs. lx give $\frac{60}{15} =$	4.00		
3i “ $\frac{480}{15} =$	32.00	3.887	0.113
		31.100	0.90
			13.89

The actual difference obtained by the above rule amounts, therefore,

to rather less than a plus of $1\frac{1}{4}$ grain for the drachm, and 14 grains for the troyounce.

A few examples may yet be added to show the insignificance of this difference for smaller weights; thus we obtain for—

		Actual weight.	Difference.	Grain.
grs. x,	$\frac{10}{15} = 0\cdot66$	0\cdot648	0\cdot012 less than	$\frac{1}{8}$
grs. viii,	$\frac{8}{15} = 0\cdot53$	0\cdot518	0\cdot012 “	$\frac{1}{8}$
grs. iii,	$\frac{3}{15} = 0\cdot20$	0\cdot194	0\cdot006 “	$\frac{1}{16}$
grs. ii,	$\frac{2}{15} = 0\cdot13$	0\cdot129	0\cdot001 nearly	$\frac{1}{85}$
grs. i,	$\frac{1}{15} = 0\cdot066$	0\cdot065	0\cdot001 “	$\frac{1}{85}$

In prescribing by metrical weights, the amounts should in all cases be expressed in grams and decimal fractions of grams, and with Arabic numerals, in which case no signs or abbreviations are required; a few examples of prescriptions, written in the usual manner, with their (practical) equivalents in metrical weights, will readily explain this, and show the greater clearness of the latter method, and the less liability to error from indifferently made signs and Roman numerals.

R. Potassii iodidi,	.	.	.	3ii	8\cdot00
Iodinii,	.	.	.	gr. ii	0\cdot13
Aquæ,	.	.	.	f3ss	15\cdot00
Syr. sarsap. comp,	.	.	.	f3iiiiiss	140\cdot00

Dose.—One tablespoonful, containing one gram (15 grains) potassium iodide, and 0\cdot016 ($\frac{1}{4}$ gr.) iodine.

R. Potassii nitrat.,	.	.	.	3iss	6\cdot00
Vin. antim.,	.	.	.	℥xl	2\cdot66
Tinct. digitalis,	.	.	.	f3i ¹	3\cdot50
Mucil. acaciæ,	.	.	.	f3ss	20\cdot00
Aquæ,	.	.	.	f3iii	90\cdot00
Syrup. aurantii,	.	.	.	f3i	40\cdot00

A tablespoonful of this mixture contains 0\cdot66 (10 grains) of potassium nitrate, 0\cdot0012 ($\frac{1}{84}$ grain) tartar emetic, and 0\cdot055 ($\frac{1}{2}$ grain) digitalis.

R. Morphiæ sulphat.,	.	.	.	gr. i	0\cdot066
Pulv. digitalis,	.	.	.	gr. vi	0\cdot40
Sacchari albi,	.	.	.	3iss	2\cdot00 M.

Divide in chart. No. 12.

Each powder contains 0\cdot0055 ($\frac{1}{182}$ grain) morphia, and 0\cdot033 ($\frac{1}{2}$ grain) digitalis.

¹ Representing $7\frac{1}{2}$ grains of digitalis; menstruum diluted alcohol.

R. Quiniae sulph.,	gr. xii	0·80
Pulv. opii,	gr. iii	0·20
Syrupi,	q. s.	

Fiant pil. No. xii.

Each pill contains 0·066 (1 grain) quinia, and 0·016 ($\frac{1}{4}$ grain) opium.

R. Atropiæ,	gr. ss	0·033
Alcohol.,	q. s.	
Adipis,	ʒi	4·00 M.

Atropia ointment.

It is the writer's opinion that physicians could very materially promote the introduction of the metrical weights, since by writing their prescriptions in the manner indicated, they would at the same time compel apothecaries to procure a suitable set of weights, which would save them the trouble of calculating the grams into grains and troy-ounces; such a movement would be a great step toward carrying out the resolution of the Convention of 1870, and toward harmonizing the strength of the various pharmaceutical preparations with those of other "Pharmacopœias," or at least bringing them into a simpler relation.—*Med. and Surg. Reporter*, Sept. 9.

THE UNION OF CHLORAL HYDRATE AND CAMPHOR.

BY EARNEST C. SAUNDERS, MONTREAL.

It has long been known that a mixture of hydrate of chloral and camphor, in equal parts, formed a liquid, but it has, I believe, never been settled as to whether the result is due to chemical combination or to the solvent power of one article over the other. The following notes of an investigation into the subject may be interesting, and throw some light upon it.

Four ounces of chloral hydrate and the same weight of camphor, in lumps, were put into a bottle and allowed to stand, being occasionally shaken. In 48 hours both were completely liquefied, forming a syrupy fluid, smelling of both ingredients, and of specific gravity 1·243. Five ounces of this were placed in a flask, fitted with a wide tube leading into a receiver immersed in ice-cold water, and having a thermometer passed through the cork, the bulb reaching into the liquid. Heat being applied, the temperature rose to 224° F., at which point the liquid boiled freely. The temperature rose gradually up to 300°, from which point it rose more rapidly to 402°, when the liquid distilled unchanged.

The distillate was separated into two parts, the first being collected up to 300° , the other being that which passed over between that point and 402° . The vapor which passed over at this temperature solidified in the tube before reaching the receiver.

The first distillate was a soft greenish mass, consisting of small crystals mixed with liquid. It was found to consist of chloral hydrate, with a very small quantity of camphor, and owed the color to a minute quantity of a greenish oil, apparently the result of some chemical action having taken place between the chloral and camphor. This oil could not be obtained in sufficient quantity to be examined.

The second distillate was a thick oily liquid, having a pungent odor of chloral hydrate. It combined with a small proportion of water, but was insoluble in a larger quantity. It was miscible with alcohol, of specific gravity .937 and .838 in all proportions, and proved to be hydrate of chloral with about enough camphor to liquefy it.

The residue in the flask, which boiled at 402° , was found to solidify at 248° , and was almost insoluble in water, but freely soluble in alcohol, sp. gr. .838, was plainly camphor.

The original solution was decomposed by water, the camphor floating on the surface, while the filtered liquid gave abundant evidence of chloral hydrate on being tested.

Judging from these facts, it would seem certain that no chemical action takes place when the two articles are mixed in the cold. Both are volatile at ordinary temperatures, and the following experiment, which was performed to ascertain which was the solvent, conclusively proves that it is the vapors which act upon each other. Two lumps, one of chloral hydrate and one of camphor, were placed about an inch apart on a porcelain plate, and covered with a bell glass. In fifteen minutes the surface of the camphor was quite damp, but the chloral was quite dry. In three hours the chloral was still dry, while the camphor was quite wet and standing in the midst of liquid. In twelve hours the liquid had reached the chloral, the upper surface of which was still dry, while in twenty hours both lumps were half liquefied, and the inner surface of the bell glass was covered with moisture. This would almost seem to point out that the vapor of the chloral was the solvent, but it was found while one part of camphor would form a permanent liquid with three and a-half parts of chloral hydrate, one part of chloral, dissolved by the aid of heat, with two parts of camphor

solidified to a soft crystalline mass when cold, from the camphor crystallizing. It is most probable that the camphor is the solvent, which would also seem likely, as camphor is an essential oil, and is known to render other bodies fluid. The change of color, with the formation of an oily liquid, would seem to point to chemical action occurring when the mixture is subjected to strong heat.

The following notes of the solubility of the mixture in various articles may be serviceable to any who are called upon to dispense it, or to physicians who feel inclined to try the effects of it.

It is miscible in all proportions with alcohol, sp. gr. .838, bisulphide of carbon, ether and olive oil. It is soluble in eleven parts of alcohol, sp. gr. .937. It is insoluble in water. It forms a clear mixture with one and a-half parts of chloroform, but a further addition of three parts of chloroform renders it turbid. Camphor forms a permanent liquid with three times its weight of chloral hydrate. The experiments were conducted with the atmosphere at a temperature of about 80°; the fact is mentioned as it may have influenced the solubility slightly.—*Phar. Jour. and Trans.*, July 29, 1876.

CRYSTALLIZED HYDROBROMATE OF CONIA.¹

BY M. MOURRUT.

In a paper recently read before the Société de Thérapeutique the author described some attempts to obtain crystalline salts of conia. His first experiments were made with various acids upon the ordinary brown conia, from which crystals were obtained, but they were contaminated by a brown matter which could not be removed without great loss. The German conia, which is nearly white, was therefore substituted, and this readily gave crystals. The salt obtained most easily was the hydrobromate, by simply treating the alkaloid with the acid. When brown conia was operated on there was a rise of temperature, an evolution of white vapors, and the characteristic odor of conia became manifest; the mixture then became green, and finally black with a reddish tinge. After a short time crystals commenced to form; they were contaminated by the brown-black substances that colored the liquid, but by repeated crystallizations they were obtained colorless. There was, however, much loss with the impure alkaloid.

In operating upon the white conia the author places it in a crystalliz-

¹*Répertoire de Pharmacie*, June 25, p. 369.

ing vessel with a fragment of blue litmus paper, and dilute hydrobromic acid is added drop by drop, until the litmus paper commenced to turn red, the liquid which was at first yellow has then a rose tint. The crystallization quickly commences, and the evaporation may be expedited by a gentle heat; there will no longer be any smell of conia.

The hydrobromate of conia crystallizes in colorless prismatic needles that are very soluble in water and alcohol, but less so in ether and chloroform. The crystals are not deliquescent; they are odorless and have only a slight taste; but when crushed between the fingers they give off a strong odor of conia. When exposed to the air the salt is colored red, like many other hydrobromates, but does not decompose; in the dark it remains white. It supports a tolerably high temperature, melts at about 100°C ., and above that point volatilizes, giving off an odor of conia. It contains about one third its weight of bromine, but the author has not yet made an exact analysis.

The salt is reported to have been administered in hourly doses of 2 milligrams to infants one year old suffering from whooping-cough, with good results, and in 5 milligram doses to a child three years old. Dr. Regnault has also injected equal to 5 milligrams in the case of an adult suffering from sciatic pains, repeating the dose at an interval of three days, after which the pains ceased.—*Phar. Jour. and Trans.*, July 8, 1876.

GLEANINGS FROM THE FOREIGN JOURNALS.

BY THE EDITOR.

Ferric Phosphate with Citrate of Sodium.—In a paper, commenting on Creuse's tasteless iron salts ("Am. Jour. Phar.," 1873, p. 214), J. Martenson recommends as especially useful the above combination, for the preparation of which he gives the following directions: 358 parts of crystallized phosphate of sodium are dissolved in 10 to 15 times the quantity of hot water, the solution is precipitated by a solution of ferric chloride, excess being avoided, and the precipitate well washed. It is transferred to a porcelain capsule, 137 parts of citric acid are added and a moderate heat applied; the liquid is neutralized with sodium carbonate, and the heat continued until complete solution is effected, after which it is filtered, and by means of a water-bath evaporated to dryness. The anhydrous compound contains 25 per cent. of ferric oxide, but is capable to combine with more ferric phos-

phate, until it has nearly the composition represented by the formula $2(\text{Fe}_2\text{O}_3\text{PO}_5) + (3\text{NaO}, \text{C}_{12}\text{H}_5\text{O}_{11})$, which requires 28.57 per cent. of ferric oxide.

The taste of the solution is slightly saline, not in the least ferruginous; by the addition of citric acid it becomes agreeably acidulous. The aqueous solution passes completely through parchment paper and animal membrane, which is not the case with the soluble saccharated oxide of iron and the ferrum dialysatum. The two preparations named have been completely superseded in the children's hospital of St. Petersburg by the soluble phosphate mentioned.—*Phar. Zeitschr. f. Russl.*, No. 10.

Detection of Alkaloids.—A. Cazeneuve recommends to mix the powdered and moistened material with half its weight of slaked lime, and to dry one-half of the mixture in the water-bath, the other half by exposure to the air. Each portion is then separately treated with ether, and a portion of each ethereal solution evaporated spontaneously; the residues are examined by the microscope, and by dissolving in acidulated water.

Other portions of the ethereal liquids are tested with an ethereal solution of oxalic acid, whereby many alkaloids are precipitated as oxalates insoluble in ether, but dissolving again on the addition of water. If combinations of lime with fatty or resinous acids were present in the ether, the precipitate will be insoluble in water.

It must not be overlooked that other principles besides many alkaloids are soluble in ether.—*Jour. de Phar. et de Chim.*, 1876, p. 201.

Raffinose, a new saccharine substance, has been obtained by D. Loiseau in his investigations of molasses. It forms white crystals, is nearly insoluble at 20° C. in 90 per cent. alcohol, dissolves at the same temperature in 7 parts of water, but at 80° C. in all proportions. It has a greater rotating power than sugar (100 : 159), and loses at 100° C. (212° F.) 15.1 per cent. of water; its formula seems to be $\text{C}_{18}\text{H}_{32}\text{O}_{16} + 5\text{H}_2\text{O}$.—*Phar. Cent. Halle*, No. 33.

Detection of Nitrobenzol in Oil of Bitter Almonds, etc.—Jacquemin uses for this purpose a solution of stannous chloride in caustic soda. If a few drops of the suspected liquid are added to this alkaline solution, sufficient anilin is formed to produce the blue color of erythrophenylate of sodium, after the addition of one drop of phenol and a little hypochlorite of sodium.—*Chem. Centralblatt*, No. 28, from *Jour. de Phar. et de Chim.*

Piperin and Chavicin.—R. Buchheim obtained these two principles by washing the alcoholic extract of black pepper with water and treating it with ether. The residue was treated with little potassa to remove an acid resin, dissolved in alcohol, decolorized with animal charcoal and repeatedly crystallized from petroleum benzin. The piperin thus obtained was in nearly colorless quadrangular prisms, which in alcoholic solution had a peppery taste.

The ethereal solution was agitated with a little potassa solution to remove chlorophyll, fatty acids and resin, the ether distilled off, and the residue dissolved in alcohol, treated with animal charcoal, and evaporated. By repeatedly dissolving it in little ether, the piperina was nearly entirely removed, and a little petroleum benzin separated the last portions of fat. The chavicin remaining behind was a yellowish-brown mass of the consistence of turpentine and an extremely acrid pepper taste. Its alcoholic solution, boiled with potassa, yielded an alkaline distillate, which proved to be piperidina, while the residue in the retort, after dissolving in water and acidulating with hydrochloric acid, yielded *chavicic acid* as an amorphous resinous mass.

Piperina may be regarded as a piperidina, N, H, C_8H_{10} in which one H is replaced by piperic acid, thus: $N, C_{12}H_9O_3, C_8H_{10}$, and chavicin may in like manner be viewed as a piperidina in which one H is replaced by chavicic acid.

Neither chavicin nor piperin yield salts with acids.—*Phar. Cent. Halle*, No. 35, from *Buchn. N. Repert.*

Hops as a Ferment.—The fermentative principle which Sacc believes to be in hops (see "Amer. Jour. Phar.," 1876, 320) does not exist, according to F. Soxhlet; a fermentable solution of sugar mixed with a decoction of hops, then boiled to destroy the organized alcohol ferments, and left in contact with filtered air only, does not undergo fermentation. The porosity of bread is produced through alcoholic fermentation; but besides this, secondary processes, and particularly lactic fermentation, are observed. Hops act as a preservative against the latter, but do not prevent the former, and are added to yeast for similar purposes as they serve in beer, namely, to prevent the secondary fermentation, for which purpose the addition to beer of a little salicylic acid has been recently recommended.—*Chem. Centralbl.*, No. 19.

The Presence in Beer of a Substance resembling Colchicia.—E. Danneberg stated recently that he had obtained from beer an alkaloid resem-

bling colchicia in its reactions ("Arch. d. Phar.," 1876, May). H. van Geldern, of Leeuwarden, Holland, has obtained the same body, in 1874, by the method of Stas and Otto, and found then that it could also be obtained from a mixture of unadulterated hops and gelatin. The latter body is always present in beer, and is possibly the cause of the precipitates formed with the general reagents for alkaloids, and which are not produced if pure hops alone be employed for the experiment.—*Archiv d. Pharm.*, July.

THE CHEMICAL INDUSTRY OF GERMANY AT THE CENTENNIAL EXHIBITION IN PHILADELPHIA.

BY THE COMMITTEE OF THE ASSOCIATED GERMAN CHEMICAL MANUFACTURERS.

II. *Painters' and other Colors, Pigments, Coloring Materials, Turpentine, Oils, Varnishes, Printers' Inks and Lithographic Inks, Writing Inks and Boot-Blackings.*

Of the mineral-colors, the ultramarine plays the most important part in the German export. Germany produces about four times as much ultramarine as all other countries, and exported in 1874, 5,060,000 lbs. Germany's production of zinc-white and lead-white may also be termed very considerable, as in 1874 it was exported 15,070,000 lbs. Concerning Germany's export of other mineral and earth-colors, Berlin-blue, Schweinfurt-, chromium- and Guignet-greens, cadmium- and zinc-yellows, cinnabar, etc., are no statistics at hand. The fact, however, that so large a number of the works producing this plenty of products, exhibit at the Centennial, is sufficient proof, that in this branch of German industry, the manufacturers lack no faith in the excellence and powers of competition of their products.

Among the products derived from coal-tar are *benzol*, *toluol*, *anthracene* and *carbolic acid* the most important as starting-points in the manufacture of colors. Unfortunately the German dying industry is as yet dependant on England, since the only partially developed tar-industry of Germany furnishes but $\frac{1}{3}$ of the amount consumed in that country.

With the progress of the anilin-color industry, greater demands were made on the manufacturers of *anilin oil*, and hence, it has become the endeavor of the German anilin oil manufacturers by a proper choice of the raw products (*benzol-toluol*) to improve the qualities of the anilin.

An important export article for Germany is the *anilin oil* for calico printing.

Preparations whose manufacture is successfully carried on by many works are *methyl-anilin* for preparation of *anilin-violet*, *diphenyl-amin*, *methyl-diphenyl-amin* for preparation of the finer *anilin-blue*, *naphthyl-amin* and *Phenylene-diamin*.

The participation of *anilin colors* and *alizarin industries* in the exhibition corresponds but little to their great importance to Germany. Hardly a quarter of the existing manufactories are represented, and yet the largest part of the coal-tar colors used in America are produced in Germany. In 1874 Germany exported 673,200 lbs. of anilin colors, and altogether furnishes about three-quarters of the total anilin and alizarin colors in the world's market.

The production of *arsenic-free fuchsin* (rubin) by the so-called nitrobenzol process may be considered as established. Aside from the undoubted results which two German manufactories have obtained by the new method, the former objection, that it could not compete with the old in cheapness, vanishes.

The manufacture of *methyl-violet* by oxidation of dimethyl-anilin, by means of copper salts, has found general introduction, and has almost entirely superseded the Hofmann-violet made with iodine, so that the iodine violet is only employed for a few special purposes. In the same manner the iodine-green has been replaced by the methyl-green produced from methyl-violet. The necessity of using large amounts of iodine, the laborious regaining and the fluctuating price of this expensive body, as well as the more beautiful shades and the cheaper prices of the violet and green colors produced without iodine, have caused the rapid abandonment of the old methods of manufacture.

The use of the various *anilin-blues* in the dying industry increases from day to day, and with it the number of sorts occurring in commerce.

The finer blues prepared from *diphenyl-amin* have as yet, it is true, only found a limited application in dyeing, but on account of their great purity will doubtless soon attain a better introduction.

In spite of its impurity, *safranin* is still used for certain purposes, especially for dyeing silk and cotton.

Corallin still finds extended application in silk-dyeing and for the preparation of paper and carpet-lacs.

Among other tar-colors manufactured in Germany, are *Martius-yellow*, *phosphin*, *picric acid*, *bismarck-brown* and *nigrosin* to be mentioned. These colors occur in commerce under the most various names.

One of the latest discoveries in the field of coal-tar colors is the *eosin*, which at present is manufactured in many German works. It promises to become a not unimportant competitor of cochineal and safflower.

Perhaps, hardly any field of chemical industry has been more severely affected from the state of the times than the production of *artificial alizarin*, whose manufacture, although so recent, yet on its first introduction in Germany increased so rapidly. In its struggle for existence against the natural color, the madder, although it has not been entirely conquered, still in the last two years has suffered severe blows. The considerably larger yield, which, of late, it has been found, may be obtained in the manufacture of alizarin, will doubtless remove these difficulties.

In the working-up of *vegetable colors* into fine color-extracts and lacs, Germany does not stand behind England and France. *Indigo*, *cochineal*, *safflower carmin*, *orseille preparations* and *color extracts, en pâte*, as well as the *colored lacs* for the colored paper and carpet industries, are produced in numerous German establishments on the largest scale, but they are very incompletely represented at the Exhibition.

III. Extracts, Essences, Perfumes, Pomades, Medicinal Mixtures, etc.

Essential oils are manufactured in Germany on an extended scale, Leipzig being in a certain measure the chief manufacturing city.

The wild and cultivated plants, which by proper climatic conditions are rich in powerful aromas, form the basis of this branch of industry, which is so developed through the use of perfected apparatus, that not only the domestic, but many of the foreign plants, are distilled with advantage. The extension of this business is illustrated by the fact that Leipsic alone prepares and exports 110,000 lbs. of caraway-seed-oil yearly.

The essential oils are used in pharmacy, perfumery and particularly in the manufacture of liquors.

In intimate relation with the fabrication of essential oils stands the preparation of *essences* (extracts of aromatic vegetables), which has reached a great development in Saxony.

The fruitful bottom of Middle-Germany produces a large number of *medicinal plants*, a part of which grow wild, while a part are carefully cultivated, and supplies foreign countries, particularly North America, with large amounts.

In many places *extracts* and *medicinal mixtures* are prepared. The capability and trustworthiness of the representatives of this branch of manufacture have obtained a good name for their products in foreign lands.

England and France still remain the chief furnishers of *perfumes*, *pomades* and *toilet articles*, but it is not to be denied that this branch of industry has increased in Germany since the export of these articles, among which is to be included cologne-water—maintaining its fame during two centuries—was in 1874, 1,898,000 lbs., having a value of 168,750 dollars.

MINUTES OF THE COLLEGE.

PHILADELPHIA, SEPTEMBER, 25th, 1876.

The semi-annual meeting of the Philadelphia College of Pharmacy was held this day at the College Hall.

Dillwyn Parrish, President, occupied the chair, and seventeen members were in attendance.

The minutes of the meeting in June last were read, and, on motion, approved.

The minutes of the Board of Trustees, for the last three months, were also read by the Secretary of the Board, and, on motion, adopted.

These minutes make mention of a present to the College Cabinet of a large and interesting collection of carbolic acid compounds, which are now in the Centennial Exposition, the property of Messrs. F. C. Calvert & Co., of Manchester, England.

On motion, it was resolved that the Secretary be requested to tender the thanks of the College to Messrs. F. C. Calvert & Co., of Manchester, England, for their very valuable and acceptable gift to the College, at the close of the Centennial Exposition, consisting of carbolic acid and its various compounds, together with other chemicals.

The committee appointed by the College to attend the annual meeting of the American Pharmaceutical Association, made the following report :

To the Philadelphia College of Pharmacy:

The delegates appointed to attend the annual meeting of the American Pharmaceutical Association respectfully report that they attended to the duties assigned them, some of their number being present at all of the sessions held.

The usual routine of business was pursued, and many interesting papers were read, eliciting approbation from those present.

A large number of members were in attendance, consequent in part upon the Centennial Exposition.

The Committee of Arrangements selected by the Association, in conjunction with a similar committee appointed by this College, arranged a social entertainment, in which most of the members of the Association present, with their ladies, participated. It was a thoroughly enjoyable affair, and passed off in a manner reflecting credit upon the good taste of the committee.

A drive throughout the Park, for the entertainment of the visiting ladies, and an excursion to the Switchback were also a part of the entertainment devised by the committee.

Invitations were received by the Association from the officers of the Union League, Zoological Garden, the Academy of Natural Sciences, Masonic Temple and other places of interest, for members of the Association to visit their several institutions, all of which were accepted with thanks.

The Centennial Exhibition seemed to claim much of the attention of members from a distance.

Your delegation had the honor of having its chairman, Mr. Bullock, elected to the post of President of the Association during the ensuing year.

The Association adjourned to meet in September next at Toronto, Canada.

Signed, W. J. JENKS,
On behalf of the delegation.

September 21st, 1876.

Prof. Maisch, on behalf of the committee appointed to attend the Conference of the Pharmaceutical Colleges, made a report as follows:

To the Philadelphia College of Pharmacy:

The delegates appointed to attend the Conference of Schools of Pharmacy respectfully submit the following report:

The seventh Conference of Schools of Pharmacy was held in the library of the Philadelphia College of Pharmacy on the evenings of September 11, 12 and 13, three sessions being held altogether. All Colleges of Pharmacy in the United States, conferring the degree of Graduate in Pharmacy, were represented. Delegates were accredited from the Chicago, Cincinnati, Louisville, Maryland, Massachusetts, New York, Philadelphia and St. Louis Colleges, and Professor Emlen Painter of the California College of Pharmacy was invited to take a seat and participate in the deliberations.

Mr. Chas. A. Tufts of the Massachusetts College was elected President and John M. Maisch of the Philadelphia College, Secretary for the ensuing year.

The questions submitted for discussion by the Philadelphia and Louisville Colleges were as follows:

1. Can a progressive course of lectures be suggested, differing from that followed in most Colleges of Pharmacy, and if so, what branches and in what order should they be taught?—or is it advisable to adhere to the present system, extending perhaps, the sessions; and to require junior students to pass an examination before they may be regarded as second-course students; and in the latter case what amount of knowledge should be demanded at the junior examination?

2. Is it advisable to make one or more courses of practical instruction obligatory as part of the regular course of instruction in pharmacy, and if so, to what extent should such a course embrace analytical chemistry, preparation of chemicals, preparation of pharmaceuticals and extemporaneous pharmacy?

The first session was devoted principally to the discussion of the first question, and a general interchange of views on this subject was had, the experience and observations made by the different Colleges being related. That a graded course is preferable to the present system of teaching was admitted; also, that such a graded or progressive course must ultimately be adopted. But to effect such a change at once was, in the judgment of the delegates, unfeasible, though the object to be attained should be continually kept in view.

The questions were finally referred to special committees for elaboration, and their reports formed the basis for discussion and action at the subsequent sessions.

The committee on the first query submitted a scheme for a progressive course, as follows:

FIRST, or ELEMENTARY COURSE.

1. *Chemistry*—Physics as applied to Chemistry; Chemical Philosophy; General properties of the elements and their compounds; General review of the groups of organic compounds.
2. *Pharmacy*—Physics as applied to pharmacy; manipulations; extemporaneous pharmacy.

3. *Botany and Materia Medica*—Morphology, histology and organology: systematic botany; description of medicinal herbs and flowers.

SECOND, or ADVANCED COURSE.

1. *Chemistry*—Systematic Chemistry, both inorganic and organic.
2. *Pharmacy*—Pharmaceutical Chemistry and its application to the various processes.
3. *Materia Medica*—Special pharmacognosy.

It was the opinion of the committee that, while such a course of instruction was very desirable, the time had not yet arrived when it could be successfully introduced in all the Colleges; a practical substitute would under the present system of instruction be found

1. In the increase of the number of lectures, whereby the lecturer can devote more time to the elementary subjects; and

2. In holding annually an examination of the first-course students, such examination to be optional with them; and thus stimulating them to further study and preparation for the second course. These examinations might embrace such subjects as would be embraced in the elementary course referred to.

The report was freely discussed in its various bearings, and a resolution was then passed recommending to the Colleges the introduction of such first-course examinations, with the request to report to a future conference on the success of the same.

The committee on the second query reported as follows:

"Believing that the grand aim and object of establishing schools of Pharmacy was to furnish the public with able and skillful exponents of the science, and that to secure this end, *practical* instruction is of the highest importance; and whilst the didactic system of teaching is undoubtedly useful [experience having proved it], yet they would recommend a practical course of instruction which would so instruct the student that he would be prepared to stand an examination embracing questions which would compel him to have sufficient knowledge of analytical chemistry to qualitatively determine a 'Pharmacopœia' chemical; of the preparation of such chemicals as can readily be produced in a retail pharmacy; of the preparation of any pharmaceutical preparation of the 'Pharmacopœia,' and so thorough an acquaintance with extemporaneous pharmacy that he would have no difficulty in producing creditable specimens of skill in the various branches of this portion of science before a competent board of examiners;

"And they do further recommend that as a practical plan to stimulate the acquisition of this kind of pharmaceutical knowledge, the student be required, as part of his examination, to prepare himself, before the professors and examining committee, suitable evidences of his practical knowledge."

After a full interchange of views the Conference passed a resolution recommending to the Colleges to establish laboratories for the practical instruction in chemistry and pharmacy; and then adopted the report of the committee, with the view of recommending the practical examinations.

A query referring to the advisability of subjecting pharmaceutical students to a preliminary examination previous to admitting them to the College courses, was introduced and after some discussion laid upon the table, the same question having been disposed of by the conferences of 1870 and 1873.

Questions relating to matriculation, the procuring of lecture tickets and other routine business of the Colleges were discussed to some extent, with the view of securing uniformity by all institutions.

The Colleges of New York and of California were selected to prepare questions for consideration at the next Conference, and after resolving that the eighth Conference convene at ten o'clock on the morning preceding the first session of the twenty-fifth meeting of the American Pharmaceutical Association, the Conference finally adjourned.

JOHN M. MAISCH.
JOSEPH P. REMINGTON.
ROBERT BRIDGES.

This being the semi-annual meeting, an election for eight trustees and a Committee on Deceased Members was ordered.

Samuel S. Bunting and Wm. B. Webb, acting as tellers, reported the following gentlemen elected to fill the positions for one year, viz.:

Trustees—Dr. Wilson H. Pile, William C. Bakes, William McIntyre, Albert P. Brown, Edward C. Jones, Richard V. Mattison, Robert England, A. W. Miller.

Committee on Deceased Members—Charles Bullock, Alfred B. Taylor, Joseph P. Remington.

There being no further business then, on motion, adjourned.

WILLIAM J. JENKS, *Secretary*.

PHARMACEUTICAL COLLEGES AND ASSOCIATIONS.

BRITISH PHARMACEUTICAL CONFERENCE—THE MEETINGS AT GLASGOW.—It may appear to be but a repetition of what has been said in former years to announce that the latest meeting of the British Pharmaceutical Conference, held at Glasgow on Tuesday and Wednesday, September 5th and 6th, has been at least as successful as that of any former year. But this is not a mere formal statement. Glasgow pharmacists may even boast of having been able to secure for this year's scientific meetings larger and more evenly sustained audiences than have supported the readers of papers on any previous occasion, whilst it is no wonder that, with the beauties of the Clyde, to say nothing of other inducements, they were able to tempt a large company to take part in the excursion. But to the serious business first.

The Executive Committee was again able to present a favorable report, showing an income during the year in excess by about £240 of the expenditure, including the cost of the Year Book and the grants in aid of research. With respect to this latter branch of the operations of the Conference, we are informed that the Executive Committee has made the following fresh grants: £5, extended, if necessary, to £10, to Mr. J. C. Thresh, F.C.S., for the purchase of materials in connection with an extended research on the active principle of capsicum fruit; £10 to Dr. Armstrong, F.R.S., for the purchase of strychnia, etc., with which to conduct a research on the oxidation products and bromo derivatives of that alkaloid; £20 to Dr. Tilden, F.C.S., for the purchase of essential oils, and £50 to Dr. C. R. A. Wright, F.C.S., Mr. J. Williams, F.C.S., and Mr. T. B. Groves, F.C.S., to defray expenses in connection with extended researches on the aconitines.

The President's address amply justifies the cordiality with which it was received. In it Prof. Redwood sets forth in an extremely clear and definite manner his views respecting the position that can be taken justifiably by pharmacists, in respect to giving advice as to the use of the drugs they handle daily, and this portion of the address forms a valuable contribution to the literature of a subject which has been too frequently discussed under a cloud of self-interest. Good service in another direction is done by the interesting illustration of our comparative ignorance respecting much of the history of the *Materia Medica*, and there can be no doubt that the suggestion as to the application of some of the scientific energy and the funds of the Conference for the testing and comparing of results already obtained by various investigators, if effectively carried out, would at least clear the ground of some of the confusions and contradictions with which it is now covered. During the reading of the address the large room of the Royal Hotel was filled with an evidently much interested audience, nor was the President less successful when in inviting discussions upon the several papers, he showed in a few lucid and suggestive sentences the bearing which each had on pharmacy.

Twenty-eight papers were read. In the first, Mr. B. S. Proctor described the strength of four samples of liquid extract of *pareira* as varying between one and six. This result he attributed to the vagueness of the words "coarse powder," used for indicating the degree of comminution, although it might well be due to the crude

materials not having had an identical origin. During the discussion, the President expressed an opinion in favor of a clearer definition of the degrees of fineness of powders in the next edition of the "British Pharmacopœia." The next note was by Mr. Stoddart, on the action of hydrochloric acid on the coloring matter of *Crocus sativus* in the presence of sugar. Five papers on opium followed. Mr. Dott, induced by variations he had met with in the morphia strength of opium preparations, expressed himself strongly in favor of the use of definite chemical principles instead of crude drugs; Messrs. Proctor and Cleaver gave some valuable information respecting the assay of opium; Dr. Wright described his continued research on the opium alkaloids, and Mr. Brown announced the presence of free acetic acid in opium. Next, the use of gum tragacanth and glycerin for a pill excipient was advocated by Mr. Welborn; afterwards Mr. Haffenden described his method of making phosphorus pills. Jaborandi this year furnished but one paper, that in which Mr. Gerrard described the action of various solvents upon "some salts of pilocarpine;" these he appeared to look upon as compounds of the alkaloid to which Mr. Kingsett recently attributed a definite formula, but Mr. Kingsett hardly acquiesced in the assumption. The next paper, by Dr. Wright, showed that with respect to the aconite alkaloids also, there still exists considerable haziness. In the last paper read on Tuesday, Mr. Thresh gave some further information respecting the active principle of capsicum fruit, and described some painful physiological experiments he had performed upon—himself.

The second day's proceedings opened with Mr. Kingsett's fourth report on the oxidation of essential oils, a research which the author indicates will probably eventuate in the manufacture commercially of a valuable antiseptic. Mr. Muir made a preliminary report on oil of sage. A preliminary report was also made on the chemistry of ivy by Mr. Davies. Dr. Tilden summarized the results obtained from the administration of the varieties of aloin to patients in the Bristol Hospital, an account of which has already been published in this Journal. Mr. Andrews suggested a formula for a glycerinum cinchonæ. Mr. Gerrard recommended the substitution of Canada balsam for the resin and suet in the B. P. cantharides plaster, which he considers to be insufficiently adhesive and flexible. Mr. Brown proposed a solution of citrate of iron and quinia, to be preserved by addition of chloroform. Such an addition, however, was generally disapproved of, and it was stated that a strong solution could be kept without it. Mr. Howie now submitted to the Conference the importance of deciding what should be considered the standard strength of the compound syrup of the phosphates. Mr. Greenish described the constituents met with in various filtering papers, and exhibited a specimen of Japanese filtering paper, prepared from the liber tissue of the paper mulberry (*Broussonetia papyrifera*). Three papers had for their subject salicylic acid. In consequence of the impurities met with in commercial salicylic acid, and the difficulty experienced in purifying by recrystallization, salicylate of soda prepared from it, Mr. Williams' attention has been turned to the sulposalicylate of soda. This salt gives, with perchloride of iron, the purple color characteristic of salicylic acid, from which Mr. Williams infers that the salicyl radicle remains in it unchanged. Mr. Hunter has confirmed, by fresh experiments, the antiseptic properties of salicylic acid. Some experiments, made by Mr. Bengel, to ascertain the condition in which salicylic acid is excreted

by patients, seemed to indicate that it then was no longer in an active or uncombined state. Mr. Siebold sent two papers, one on the preparation of a pure sulphur præcipitatum by only partial precipitation; the other, on the strength of tincture of nux vomica. Mr. Groves exhibited a specimen of so-called Pekoe "Flower," concerning the origin of which Mr. Greenish contributed some information. This was the last of the papers.

The Conference then proceeded to the election of officers. Prof. Redwood was re-elected President, and it was decided to accept an invitation to meet next year at Plymouth. Enthusiastic votes of thanks to the Local Committee and to the President closed the proceedings.

On Tuesday evening an interesting gathering took place at the Royal Hotel, where many visitors to the Conference sat down to supper with a large number of the junior pharmacists of the city. The Chairman, in a few well-chosen words, introduced successively to his young friends the representative pharmacists present, and they in their turn addressed the company. The plain speaking of Prof. Redwood will no doubt be relished in many quarters, and equally disliked in others.

Soon after 6 o'clock on Thursday morning, pharmacists and their friends began to make their way to Glasgow Bridge, near where the *Eagle* lay at her moorings. By 7, a numerous company was on board, and to the music of the band and the pipers of the Cameronian Regiment, the boat made her way down the Clyde to the western coast, visiting successively the beautiful lochs that lay in her way. If anything could have repaid the Local Committee for their unbounded kindness during the whole meeting, it must have been the manifest appreciation on the part of their visitors of this crowning hospitality. And when the company met in the cabin after dinner, there could be no mistaking the enthusiasm with which they toasted the health of their hosts, and especially of those upon whom the work had principally fallen—Messrs. Davison, Frazer, Kinninmont, Stanford and Fairlie.

We have but little space left to speak of the other meetings of the week, but we must not omit to call attention to the admirable address with which on Wednesday evening Professor Andrews inaugurated at the Glasgow University the meeting of the British Association for the Advancement of Science. It is true that one of the local journals ventured to stigmatize it as "bald disjointed chat about science," unsuited for a Glasgow audience; but we venture to say that the motive for such an attack must be sought for outside the address itself. At any rate, the passage where Dr. Andrews speaks of the clouds of smoke which darken the atmosphere of our manufacturing towns, and even of whole districts of country, as indications of waste arising from imperfect combustion, and alludes to the depressing effect of this atmosphere upon the working population, is a passage which appears to us to be worthy of the particular attention of the citizens of Glasgow. The remarks of Dr. Andrews respecting the endowment of research are well worth pondering. He is not so enthusiastic as some are as to the benefit to be derived from endowing a body of men devoted exclusively to scientific research, without the duty of teaching or other occupation, and he confesses that after careful consideration he fails to discover how such a plan could be worked so as to secure the object in view. Moreover, he thinks that great injury would be done by thus separating the influence of the master intellects of the country as teachers from the flower of its youth.

On Friday morning a meeting of the newly-formed Chemists and Druggists' Trade Association was held in the Royal Hotel, Glasgow, when it was announced that the society now numbers twelve hundred members. A Secretary and Solicitor have been appointed. The society aspires to be thoroughly representative and claims the support of the whole trade. Some of the speakers pointed out that a difficulty in this respect had prevented the Pharmaceutical Society from exercising protective functions. The task which the Association undertakes is that of uniting the trade in regard to trade interests, and thus supplementing the efforts of the Pharmaceutical Society and Conference.—*Phar. Jour. and Trans.*, Sept. 9th, 1876.

EDITORIAL DEPARTMENT.

THE LAST MEETING OF THE AMERICAN PHARMACEUTICAL ASSOCIATION was as well attended as had been expected, over 400 members having been present altogether, many of them accompanied by their ladies and other members of their family. The great attraction was the International Exposition in Fairmount Park, and the local committee, keeping this in view, had, after mature deliberation, decided to recommend that two days of the week be devoted to visiting the Exposition, a number of members, well acquainted with it, having volunteered to act as guides, and the resident ladies to show the same courtesy to the lady visitors. The number of visitors who availed themselves of these offers was not as large as appeared desirable for their own convenience, and this was in a great measure due to the visiting members living at different hotels and private houses, and to their inability to meet the guides at the designated places upon the Exposition grounds. Many of the exhibitors had very obligingly offered to open, on this occasion, the cases under their charge, and thus afford an opportunity to better inspect the drugs and chemicals. Later in the afternoon, on Wednesday, about one hundred met by appointment, at the German restaurant, located within the enclosure, for dinner, and all returned to the city at an early hour to rest somewhat from the fatigue, and be prepared for the reception which was tendered to the Association by the druggists, manufacturing chemists and pharmacists of Philadelphia and vicinity.

St. George's Hall had been selected for this entertainment, at which over 800 persons were present. An address of welcome was delivered by the local secretary, Dr. A. W. Miller, and without any other formality those present enjoyed themselves, forming new acquaintances and renewing old ones. The capacious dining rooms of the building being insufficient to hold the throng, the entire company could not, at the same time, partake of the refreshments provided; but while a portion did ample justice to the good things upon the table, the others enjoyed themselves with dancing to the excellent music discoursed by Hassler's orchestra, many remaining until a late hour.

On Thursday three sessions were held by the Association, and while the evening session was in progress a party of ladies, unfortunately smaller in consequence of the rain than would otherwise have been the case, enjoyed themselves in the main hall of the College, which, from the numerous living plants and flowers, had the gay appearance of a sub-tropical garden. A piano had been provided, and instrumental and vocal music was the order of the evening until it became necessary to return home, regardless of the continuing rain.

Friday was devoted by smaller parties to visit the various places from which invitations had been received; the Masonic Temple, Fox's Glass Works and the Zoological Garden were inspected; but to many the Exposition proved to be the stronger attraction.

On Saturday afternoon, at 2 o'clock, nearly two hundred ladies, accompanied by

the committee on entertainment, started from the College building in carriages, for a drive through Fairmount Park, entering it at Green street and passing over Girard Avenue bridge to Lansdowne and George's Hill, at the foot of which the exhibition grounds are located, affording an excellent bird's-eye view of this locality, and further in the distance of the beautiful banks of the Schuylkill river, with a portion of Philadelphia in the back-ground. The drive was resumed to Belmont, the Schuylkill re-crossed at the Falls, and the romantic valley of the Wissahickon entered and followed up to near Indian Rock. On the return the party passed through a portion of the East Park to Strawberry Mansion, where a collation was served; night had set in when the excursionists returned to their city homes.

The incessant rain on the following Sunday, September 17, made that day one of rest; but upon the following morning the sun rose upon a cloudless sky, and about ninety ladies and gentlemen went on the excursion to Mauch Chunk, passing first through a fertile rolling country to Bethlehem, from whence the road follows the tortuous windings of the Lehigh river, the valley becoming continually narrower, so that there is scarcely any room left there, besides what is occupied by the tracks of two railways. In the mean time the sky had become overcast, a drizzling rain fell occasionally and the atmosphere was quite chilly, so that the warm rooms of the Mansion House were quite inviting. After dinner the weather had become sufficiently stationary to venture on the trip to the Switch-back, first in coaches through Mauch Chunk, which is located in a narrow ravine, and up a steep hill to the foot of Mount Pisgah. From here the car is drawn up an inclined plane to a height of 864 feet from its starting point, and a foot path brought the party then to a still higher point, where, from a rustic pavilion, a beautiful view was had over mountain tops, into wild ravines and through a portion of the narrow Lehigh valley. Re-entering the car, it dashes along an inclined plane, propelled by its own gravity, a distance of six miles to the foot of Mount Jefferson, to the top of which, 462 feet high, it is again pulled by a stationary engine, thence to descend again through the force of its own gravity to the mining village of Summit Hill, located at an elevation of 975 feet above the Lehigh river. Here the "burning mine" and the "ice cave" were visited. The former has been burning since 1843, and, though filled in and closed soon after, smoke still issues from the ground, several acres of which are searingly hot and vegetation upon it totally blighted. Within the distance of less than a quarter of a mile is the cave in which, during the winter, large quantities of ice are formed, much more than even the prolonged high temperature of the past summer could melt.

The descent from Summit Hill is made solely by the gravity railroad, often at a dizzy speed along high cliffs and around short curves; and after again reaching Mauch Chunk the inclement weather forbid a visit to Glen Onoko, and a return to Philadelphia on the same evening was decided upon. A delay of the train would have caused some unpleasant inconvenience if the forethought of the entertainment committee had not, by telegraph, provided for substantial refreshments at Bethlehem.

On Tuesday, September 19, between 40 and 50 members with ladies, embarked on a steamer for a visit, down the Delaware river, to Greenwich Point, in the southern part of Philadelphia, where a branch of the works of the Pennsylvania Salt Manufacturing Company are located. The officers conducted the visitors over the grounds and through the buildings, and gave all facilities for inspecting the processes, as carried on here, of manufacturing sulphuric acid, carbonate and bicarbonate of sodium, caustic soda, alum and so-called concentrated alum. A trip to League Island, and, after returning to the city, a pleasant intercourse at the office of the company closed this day's proceedings, the last one in which the visitors to the 24th annual meeting participated.

At a meeting of the visitors to Greenwich Point, Prof. E. Painter, of San Francisco, was called to the chair, and Prof. John M. Maisch, of Philadelphia, elected Secretary. Messrs. Chas. S. Eastman, of New Hampshire, and R. V. Mattison, of

Pennsylvania, having been appointed a committee, reported the following preamble and resolutions, which were unanimously adopted :

WHEREAS, Those members of the American Pharmaceutical Association, and their ladies, who have this day visited the works of the Pennsylvania Salt Manufacturing Company, located at Greenwich Point, have, with pleasure and great profit to themselves, examined the various processes carried on there ; Therefore, be it

Resolved, That we tender our hearty thanks to the officers and managers of the Pennsylvania Salt Manufacturing Company for their courtesy and many facilities extended to us in showing and explaining the conversion of the crude materials into the finished products of their manufacture :

Resolved, That we feel greatly indebted for the generous hospitality of the officers, and for their kindness in placing a steamboat at our disposal for an excursion down the Delaware river to Greenwich Point and to League Island.

The joint committee, on arrangement, have held a meeting since the adjournment of the Association, and, though the accounts could not then be completely settled, it was ascertained that several hundred dollars would remain in the Treasurer's hands. It was unanimously determined that the surplus left should be invested, and then presented to the American Pharmaceutical Association, as the foundation of a fund, the interest of which should be expended solely for the purpose of aiding original investigations.

In conclusion, we may be permitted to say that the members of the joint committees have spared no labor to make the sojourn of their brethren here as pleasant and profitable as possible, and that the entertainment committee had perfected all the arrangements entrusted to their special care in a praiseworthy manner, which, we feel sure, is heartily appreciated by all who were present.

REVIEWS AND BIBLIOGRAPHICAL NOTICES.

Beiträge zur Lehre über den Sauerstoff-Bedarf und die gährungs-erregende Fähigkeit der Hefepilze. Von Dr. Adolf Mayer. Heidelberg: Carl Winter's Universitäts-Buchhandlung, 1876. Large 8vo, pp. 27.

Contributions to the Knowledge on the Requirement of Oxygen and the Fermentative Capability of the Yeast Fungi.

The pamphlet is issued by the author as an addition or appendix to his "Chemistry of Fermentation," and while it reviews briefly the various views held by different investigators on this subject, bases the arguments on the older experiments and the modifications and perfections of the methods of investigation adopted by Brefeld, as published in 1874. Through his critical comparisons, the author arrives at somewhat different conclusions, which, however, appear to be well founded, as far as light has been thrown upon this difficult subject. We may condense his results in the following :

1. The breathing of oxygen is not necessary for the cellular growth of all groups of low organisms.
2. The growth of the beer yeast fungus, in the absence of oxygen, is insignificant, and the occasional admission of oxygen is necessary.
3. The continued absence of oxygen causes a cessation of its growth, but not of its vitality, unless
4. This absence continues for a sufficient length of time, when all vitality ceases.
5. A continued excessive supply of oxygen causes the fungi to vegetate, without inducing fermentation ; usually, however, the same individuals sustain fermentation and vegetate in consequence of a moderate supply of oxygen.
6. Fermentation may be viewed as a sort of substitute for oxygen breathing ; it is induced to a greater extent by vital cells, the more the supply of oxygen is limited, keeping in view the possibility of an organism to retain its vitality for some time through fermentation alone and with the total exclusion of oxygen.

The conditions of successful alcoholic fermentation as they have been found out by practice, it appears to us, are contained in the conclusions drawn by the author under No. 2 and the last half of the fifth deduction.

Tables for Systematic Qualitative Chemical Analysis. By John H. Snively, Ph.D., Professor of Analytical Chemistry in the Tennessee College of Pharmacy. Nashville: C. W. Smith, 1876. Price, \$1.

The views of teachers are apt to differ on the methods and means for instruction, and still good results may be obtained. Our partiality for analytical tables like those of Will, or the more condensed ones found in Attfield's Chemistry, does not preclude a good opinion for tables arranged on a different plan; those named, however, we regard as much more convenient than the tables now before us.

Analytical chemistry deals with facts well ascertained as far as examined, and upon such facts depends the treatment to which an unknown compound is subjected in order to ascertain its composition. A student of analytical chemistry can, therefore, work intelligently only if he has a thorough knowledge of the behavior of the individual compounds, and the composition and behavior of the precipitates obtained in a systematically performed analysis becomes, for these reasons, of great importance. The happy combination of such essentials makes the admirable work of Prof. Attfield so valuable to a student who has but a limited knowledge of chemistry when he enters a chemical laboratory.

The Hot Springs of Arkansas, as they are. A History and Guide. By Chas. Cutter. Hot Springs, Ark., 1876. 8vo, pp. 88. Price, 50 cents.

A new edition of the pamphlet noticed in this journal, 1874, p. 447.

Ready Reference List for Physicians. By Rich. J. Dunglison, M.D. Philadelphia, 1876. 8vo, pp. 54.

Besides advertisements, it contains the Hippocratic Oath, directions for treating the apparently drowned, and tables on poisons and their antidotes, on doses, approximate measurements, weights and measures.

State Hospital for the Insane, Danville, Pa.

The annual report for the year 1874-75, by the Superintendent, S. S. Schultz.

Thirty-third Annual Report of the Managers of the State Lunatic Asylum, Utica, N. Y. Albany, 1876.

This report for the year 1875 was transmitted to the Legislature in January of the present year.

The reception of the following reprints is respectfully acknowledged:

Specimens of Milk from the Vicinity of Boston. By S. P. Sharples, S. B.

A contribution towards our knowledge of the variations in the composition of milk.

Scheele's Green, its Composition as usually prepared, and some Experiments upon Arsenite of Copper. By S. P. Sharples, S. B.

The composition of pure Scheele's green is probably $\text{Cu}_3\text{As}_2\text{O}_6\cdot 2\text{H}_2\text{O}$; but it is almost impossible to obtain a perfectly constant product, from the strong tendency to form basic sulphates and arsenites.

Contributions from the Laboratory of the (Missouri) State University. Part I. Determination of Baryum. By Prof. P. Schweitzer, Ph.D.

This is the first of a series of essays on the various methods of separating and determining barium, strontium and calcium, and treats of the determination of barium as sulphate, chromate, carbonate, silicofluoride and oxalate.

An Address on some of the leading Public Health Questions, with Remarks on the Extent of Swamp Lands in the United States and their Reclamation as a Sanitary and Economic Measure. By J. M. Toner, M.D.

The address was delivered before the American Public Health Association, at its third annual meeting, at Baltimore, November 9th, 1875.

A Report on Dermatology. By Prof. Lunsford P. Yandell, Jr., M.D.

Read before the Kentucky State Medical Society, April, 1876.

A Clinical Lecture on the Use of Plastic Dressing in Fractures from Lower Extremity. By Prof. David W. Yandell, M.D.

From the "American Practitioner," of July.

Orthopedic Surgery: Deformities of the Lower Extremities. By Van S. Lindsley, M.D.

Read before the Medical Society of Tennessee, April, 1876.

A Plea for Principles and Conservatism in the Treatment of Diseases peculiar to Females. By Prof. Wm. Abram Love, M.D.

From the Atlanta "Medical and Surgical Journal," July, 1876.

Sulphate of Cinchonidia a Substitute for Sulphate of Quinine. By Prof. J. W. Compton, M.D.

Read before the Kentucky State Medical Society, April, 1876.

On Strictures of the Male Urethra, its Radical Cure. By Prof. Fessenden N. Otis, M.D.

On the Treatment of Incipient Stricture by Otis' Operation. By Prof. Berkeley Hill. Together with Explanatory Remarks on the Treatment of Stricture and Gleet. By Prof. F. N. Otis.

From the London "Lancet," April 8, June 3 and June 10, 1876.

OBITUARIES.

ROBERT P. SOUTHALL, a native of Virginia, died at Washington, D. C., August 26th, at the age of 40 years. He had practised pharmacy for over 21 years, principally in Richmond, Baltimore and Washington.

FRANCIS S. GAITHER died suddenly at Washington, D. C., on the evening of September 12th, from hemorrhage of the lungs, at the age of 40 years. He was born in Georgetown, D. C., and learned and practised his profession in Washington, where he became a charter member of the National College of Pharmacy, in which he was elected to the chair of Theory and Practice of Pharmacy, but, his health failing, was compelled to resign. His studies were mainly devoted to pharmaceutical chemistry.